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Soviet Military Crimes

Professor Harold J. Berman and Doctor Miroslav Kerner

The views expressed in this article are the authors' and are not necessarily those of the Department of the Army or the Command and General Staff College.

This is the second of a series of two articles selected from the forthcoming book entitled "Soviet Military Justice." The first article "Soviet Military Discipline" appeared in the June issue.

The authors gratefully acknowledge the support of the Russian Research Center of Harvard University in the preparation of this article.—The Editor.

MORE serious offenses against Soviet military order and discipline are subject to criminal trial by military tribunals and, in general, to heavier punishment than that which may be imposed by administrative acts of superior noncommissioned or commissioned officers.

The changes in Soviet military criminal law since 1917 have not found dramatic expression in a succession of new codes, such as the four disciplinary codes discussed in the previous article of this series. Nevertheless, important trends of development may be observed.

During the period of War Communism (1917-21) sporadic decrees were enacted dealing with military criminal law, such as the decree on the term of military service, the decrees on desertion, and the decree on revolutionary military tribunals. The latter decree contained a detailed enumeration of crimes committed by servicemen. The first codification of military criminal law, however, was enacted in 1922 as Chapter 9 of the Criminal Code of the Russian Soviet Federal Socialistic Republic. Corresponding chapters were incorporated in the criminal codes of the other constituent republics. In 1924, a statute on military offenses was enacted as the first all-union criminal law, required to be incorporated without change in the criminal codes of all the constituent republics. This statute was revised in 1927 and has been amended in 1929, 1930, 1932, 1934, 1935, and 1940.

In 1934, a statute on crimes against the state, which are under the jurisdiction of military courts, was substituted for the article on military treason. The new statute provided the legal basis for the famous purge trials of subsequent years.

In general, the changes in military criminal law have been characterized by increasing severity of penalties and a

Changes in Soviet military criminal law, during the past 20 years, have increased the severity of punishment and broadened its scope to include jurisdiction over an increased number of nonmilitary citizens

widening of the groups of citizens subject to military law.

General Principles of Soviet Criminal Law

The fact that the definitions and sanctions of military crimes are contained in the general criminal code signifies a degree of fusion of military and nonmilitary law which is unusual, if not unique, in Europe and America. Article 193(1)-(31) of the RSFSR Criminal Code, and corresponding articles of the criminal codes of the other constituent republics, dealing with military crimes and punishments, is in the Special Part of the code, in which particular crimes and punishments are specified. Like the other provisions of the Special Part, Article 193 is interpreted in the light of the General Part, which deals with the elements of a crime, criminal intent and negligence, insanity, complicity, the period of limitations, and similar matters. Thus, Soviet military justice is explicitly and directly grounded in the general system of criminal justice. This unity of military and general criminal law is implemented by many provisions of a procedural nature, which we shall observe in more detail later, such as the provision for ultimate review of decisions in military courts by the Supreme Court of the USSR; the provision for trial of civilians by military courts in certain types of cases; the union of administration of military and nonmilitary courts in the Ministry of Justice, and of military and nonmilitary prosecutors and investigators in the Procuracy of the USSR.

An exhaustive study of Soviet military criminal law would, therefore, involve an analysis of Soviet criminal law in general. Such an analysis is not attempted here. However, it may be profitable to discuss briefly certain important features of Soviet criminal law which form a necessary background for consideration of the military provisions.

Socially Dangerous Acts

It was the notion of the leading Soviet jurists in the twenties and early thirties, including the framers of the 1926 RSFSR Criminal Code, that criminal liability should be based solely on the socially dangerous character of the act and of the actor, and that all consideration of fault or guilt in the subjective sense (*culpa*; in Russian, *vinovnost'*) should be eliminated. Such was the significance, in their view, of Article 6 of the code, which states:

> Every act or omission shall be considered socially dangerous which is directed against the Soviet system (*stroi*) or which violates the legal order established by the Workers' and Peasants' power during the period of transition to a Communist system.

Similarly, Article 7 authorizes the application of "measures of social defense" to persons "who have committed socially dangerous acts or who constitute a danger by reason of their connection with criminal elements or by reason of their past activity." On the other hand, under Article 8:

> If a particular act was, at the time of its commission, a crime according to Article 6 of the present code, but, at the time of investigation or trial, has lost its socially dangerous character in consequence of a change in the criminal law or by virtue of the mere fact of a changed social-political situation, or if the person who committed it cannot, in the opinion of the court, then be considered socially dangerous, the act shall not render the person who committed it liable to measures of social defense.

Article 9, stating the purposes for which "measures of social defense" shall be applied, lists (a) prevention of further crimes by the same persons, (b) deterrence of other "unstable" members of society, and (c) "adaptation of those who have committed criminal acts to the conditions of community life of the toilers' state." They shall not have as their purpose, Article 9 concludes, "the causing of physical suffering or the lowering of human dignity, and question of retaliation and penalization (*kara*) do not arise."

The effect of these provisions in the first

20 years of Soviet legal development was to minimize the factors of personal will and personal responsibility—or, in legal terms, the requirements of criminal intent or criminal negligence. Although these requirements found expression in Article 10, which states that "measures of social defense of a judicial-correctional character" may be applied only to persons who acted "deliberately" (that is, with foresight of the socially dangerous consequences of their acts) or "carelessly" (that is, under circumstances through which they should have foreseen such consequences)—nevertheless, many provisions of the Special Part of the code defined crimes without reference to intent or negligence, and Article 10 of the General Part was ignored in the interpretation of those provisions.

Harmful Effect

For example, Article 193(24), on military espionage, imposes deprivation of freedom for not less than 5 years, with or without confiscation of property, for "communication to any foreign government . . . of any information concerning the armed forces or the defensive strength of the USSR . . . but in instances in which the espionage had, or could have had, a particular harmful effect on the interests of the USSR, it [shall be punished by] the highest measure of social defense [death by shooting] with confiscation of property." Similarly, the 1934 statute on crimes against the state, which supplanted section 24 of Article 193 which is quoted above (together with various other sections of the same article), speaks simply of "acts committed by citizens of the USSR to the injury of" the military might, political independence, or geographical integrity of the USSR—without reference to the intent, negligence, or other state of mind of the person charged.

In 1936 and 1937, the neglect of personal will and responsibility—involving intent, fault, and guilt (*culpa*)—was denounced as a "left deviation." Article 10 was given new importance. Many provisions of the code were reinterpreted to require not only negligence (foreseeability of the consequences) or a general intent to commit a wrongful act, but also a specific intent or even a desire to bring about the particular prohibited consequences. Thus, the definition of a military crime is now stated not only in terms of the objective violation of the military legal order, as Article 193(1) defines it, but also in terms of subjective "culpability." Military treason, likewise, is said to require a specific treasonable intent, that is, a specific intent to injure Soviet military might, political independence, or geographical integrity.

Nevertheless, the language of social danger and social defense remains on the books and may still be invoked when the immediate interests of the state override its long-run interest in "stability of laws." "The mere fact of a changed social-political situation" (Article 8) was apparently sufficient ground for the courts, during the war, to exonerate persons called to the colors from punishment for minor crimes committed previously, especially if such punishment would interfere with the performance of their military service. Similarly, Article 8 provides a basis for a ruling of the USSR Supreme Court on 7 January 1943 that persons sentenced to deprivation of civil rights in addition to other penalties may be permitted to serve the basic part of their sentence and be released from deprivation of civil rights, if such deprivation would interfere with their military service.

Traitor's Family Punishable

Far more serious, however, is the provision that innocent members of a serviceman's family may be punished if he flees across the frontier. Article 58(1)(b), part 2, states with reference to the crime of flight across the frontier by a serviceman:

Adult members of the traitor's family who were living with or dependent on him at the time the crime was committed shall be subject to deprivation of electoral rights and exile to remote regions of Siberia for 5 years.

"The political sense of this norm," wrote Colonel V. M. Chkhikvadze, head of the Military Juridical Academy, in his 1948 textbook on Soviet military criminal law, "consists in the strengthening of the general preventive effect of the criminal law relating to such a very grievous crime as flight across the frontier, as a result of which the guilty person himself cannot be brought to punishment. The threat of application of repression to members of the family may impel the criminal to refrain from committing the treasonable act."

Chkhikvadze adds that "part 2 of Article 58(1)(b) is an exceptional norm, since as a general rule (Article 10 of the RSFSR Criminal Code) criminal responsibility exists only in those instances when the person acted intentionally or negligently. Therefore, part 2 of Article 58(1)(b) is not subject to extensive interpretation and should be applied only in instances directly stated in the law."

Doctrine of Analogy

One of the most notorious provisions of Soviet criminal law is the doctrine of analogy, which permits a person to be punished for a socially dangerous act which is not directly prohibited by law, but which is analogous to a prohibited act. This doctrine was designed to give the greatest possible leeway to prosecutors and judges to apply the spirit of the code as distinguished from its letter. It was hailed by Soviet jurists as the opposite of the "bourgeois" doctrine of "no crime, no punishment without a law."

The attack upon legal nihilism in the mid-thirties, and the emphasis then upon juridical form and upon legal stability, led to the limitation of the doctrine of analogy. The Soviet courts began to insist that analogy may only be applied if:

1. There is no provision of the Special Part directly covering the act in question (that is, it may not be applied to increase the penalty for a prohibited act).

2. The act falls within some provision of the General Part.

3. The act is similar both in kind and in importance to the act to which it is analogized.

The effect of these limitations was to make the doctrine of analogy merely a method of liberal interpretation of a statute. Leading Soviet jurists proposed that it be abolished altogether.

During the war, however, the rapid changes in social conditions sometimes left legislation far behind, while the need for repressive measures was felt by the law-enforcing bodies to be greater than before. In these circumstances the courts returned to a somewhat broader application of the doctrine of analogy than that of the late thirties, though not to the wilder interpretations of the preceding period. As late as 1943, it was possible for a Soviet textbook on criminal law to assert that the doctrine of "no crime without a law" is carried even further in Soviet law than in bourgeois law, and to state the Soviet version of the doctrine as "no crime, no punishment without a law, without fault, without cause."

Analogy Limitations

The 1948 Soviet textbook on military criminal law lists three requirements for the application of analogy in military law, similar to those mentioned above:

1. The criminal act must correspond generally to the definition of a military crime—that is, it must be an infringement of the military order by a person subject to military criminal law.

2. The code must contain no provision directly applicable to the act.

3. The act must be similar to a particular crime defined in the code.

Several examples are given, both nega-

tive and positive. Stealing from dead or wounded on the battlefield by a civilian may not be punished under the military criminal law by analogy, since a civilian is not a person ordinarily subject to military criminal law. However, stealing by a serviceman from a wounded man who is being transported to the rear may be punished by analogy under the provision concerning stealing from the dead or wounded on the battlefield. Similarly, the USSR Supreme Court ruled in 1945 that servicemen exercising functions usually associated with commanding personnel may be punished for abuse of authority under Article 193(17), even though that provision expressly applies only to commanding personnel.

Intent Punishable

In Soviet general criminal law, mere disclosures of intent to commit a crime is not in itself punishable. But under military law such disclosure is considered very harmful and constitutes at least a serious breach of discipline. It is considered especially serious if done by a commander in the presence of his subordinates.

The disclosure of intent may also be punished by court-martial, however, when it constitutes an independent crime. Thus, a disclosure of intent to commit treason or some other counterrevolutionary crime is treated as the spreading of counterrevolutionary propaganda. Chkhikvadze quotes as other examples of disclosure of intent triable by court-martial: disclosing to other servicemen the intention to desert to the enemy or to give oneself up as a prisoner, and negligent attitude toward service duties by a commander who incites his subordinates to a crime by divulging his criminal intent.

A disclosure of intent to leave without permission or to sell military equipment does not constitute a crime in itself and is punishable only as a disciplinary transgression.

Chkhikvadze points out as an especially dangerous type of disclosure of intent the threat of a subordinate against his commander, especially if the subordinate threatens to use force or firearms. Whether court-martial proceedings should be initiated depends on the character of the threat, on the general behavior of the subordinate, and on the origin or reason for the threat. If the reason is an anti-Soviet attitude, such a threat constitutes, of course, a counterrevolutionary crime.

Accomplices and Abettors

According to Article 17 of the Criminal Code of the RSFSR, punishment is "equally applicable both to persons executing the crime—the executors and their accomplices—the instigators and abettors. Instigators are persons who induce the commitment of a crime. Abettors are persons who assist in the performance of a crime by advice, instruction, furnishing means, overcoming obstacles for or concealing the criminal, or covering up traces of the crime."

An unusual feature of Soviet military criminal law is that mutiny, one of the most typical and repressed crimes in other armed forces, does not constitute a special, independent crime. Mutineers are accomplices in the general crime of insubordination, such as a failure to execute an order or resisting a person who is performing a service duty.

In military crimes, complicity of a group of servicemen is regarded as an aggravating circumstance, and if such complicity is a consequence of a premeditated agreement, it calls for a still heavier penalty. Article 47, paragraph "c," of the Criminal Code of the RSFSR includes as an aggravating circumstance "that the crime was committed by a group or band of persons."

If a commander participates in a crime as an accomplice, he is subjected to a heavier penalty, even though his participation may be only a passive one, because

his responsibility makes his crime socially more dangerous.

On the other hand, Soviet legislators considered it expedient, in 1935, to submit civilians participating in military crimes to the same responsibility as their military accomplices. In explanation of this provision, Chkhikvadze remarks that there is no basic difference in the commitment of a military crime by a serviceman or by a civilian. The serviceman infringes his oath and his military duties. The civilian infringes his duty of the defense of the country in assisting a military person to perform a military crime.

Military Crimes

The major military crimes in Soviet law may be classified under the following heads: military treason; evasion of military service; insubordination and breach of military honor; crimes against military property; breach of rules of sentry, convoy, and guard duty; military official crimes; disclosure of military secrets; battle crimes; and crimes in violation of international conventions.

Military Treason

Treason is defined, in Soviet criminal law, as "any act committed by a citizen of the USSR to the injury of the military might of the USSR, of its independence as a state, or of the inviolability of its territory, such as: espionage, betrayal of a military or state secret, going over to the enemy, or flight by air or otherwise across the frontier." It is punishable, ordinarily, by death by shooting, with total confiscation of the offender's property; under extenuating circumstances it is punishable by deprivation of freedom for 10 years, with total confiscation of property. It is listed in the criminal code as a counter-revolutionary crime, under Article 58.

The examples of treason specified in the definition cited above are not exhaustive. Under the Soviet Constitution, any infringement of the military oath is an act of treason. In fact, any military crimes, including failure to obey an order, surrender to the enemy, refusal to bear arms during combat, abandoning the field of battles, and others, constitute treason if committed with treasonable intent.

A special provision of the criminal code, Article 58(1)(b), makes treason committed by a serviceman punishable by "the highest measure of social defense," that is, death by shooting, with total confiscation of property. If treason by a serviceman, or military treason, takes the form of flight across the frontier, any adult member of his family who assisted him in preparations or who, having knowledge of the crime, fails to bring it to the attention of the authorities is punishable by deprivation of freedom from 5 to 10 years, with total confiscation of property. As mentioned previously, other adult members of his family are subject to deprivation of electoral rights and exile to remote regions of Siberia for 5 years.

Evasion of Military Service

Servicemen may be tried under military law for desertion and departure without leave; failure to report punctually; evasion of service duties by infliction of self-injury, feigning illness, presenting false papers, or other deceit; and evasion of service duties, particularly under the pretext of religious or other convictions.

Desertion and departure without leave are declared punishable by Article 193(7) of the criminal code, as amended 6 July 1940. The 1940 amendment introduced the word desertion (*dezertirstvo*) into Soviet military law for the first time. It also introduced several degrees of desertion and departure without leave, and increased the severity of the penalties imposed. However, the 1940 amendment applies as a whole only to privates and noncommissioned officers; the definitions (so-called dispositions) of the older version of Article 193(7) remain applicable to officers, but the sanctions are increased.

The older version imposes punishment on departure without leave for more than 6 days, or for more than 2 days during fleet cruise or maneuvers or special assemblies; and on "flight" (*pobeg*) with intent to evade service duties altogether or for a prolonged period. The earlier punishments were deprivation of freedom up to 1 year and up to 3 years, respectively. The 1940 amendment increases the sanctions for both forms of the crime to deprivation of freedom for not less than 2 years, with or without confiscation of property, and in time of war "the highest measure of social defense, with confiscation of property."

The 1940 provisions applicable to privates and noncommissioned officers make departure without leave up to 2 hours, first offense, punishable by trial before a comrades' court or by disciplinary action; departure without leave up to 2 hours, second offense, or from 2 to 24 hours—punishable in time of peace by sentence to a disciplinary battalion from 6 months to 2 years, in time of war by deprivation of freedom from 3 to 7 years; departure without leave for more than 24 hours (desertion), punishable in time of peace by deprivation of freedom from 5 to 10 years, in time of war by death by shooting, with confiscation of property.

The distinction between the various degrees of departure without leave and desertion rest not merely on the differences in length of absence, but also on the intent of the serviceman to be absent for a shorter or longer time. A serviceman who without leave departs on a train for a distant destination, but is apprehended and returned to his post within an hour after departure, may be guilty of attempted desertion and, on general principles of Soviet law, an attempt is punishable equally with the successful act. Similarly, it is open to a serviceman who voluntarily returns after 2 days to prove that he intended to be absent for less than 24 hours but was detained longer by forces beyond his control—and thereby to reduce his penalty from death (in time of war) to deprivation of freedom from 3 to 5 years. If there was not a direct intent to depart without leave—if, for example, the serviceman erroneously believed he had permission to depart—the crime of departure without leave was not committed.

Failure to report punctually without adequate reasons is a separate crime in Soviet military law. Article 193(10) specifies report for duty after an assignment, transfer, mission, or furlough, but these occasions are taken to be merely exemplary; other similar occasions, such as return to one's unit upon release from hospital or guardhouse, are included by implication.

The penalties for departure without leave and desertion are applicable also to failure to report punctually; in addition, by implication the distinctions in time of absence (up to 2 hours, up to 24 hours, and more than 24 hours), in military situation (on fleet cruises, maneuvers, or special assembly, in time of peace or time of war), and the like are also applicable, as are the distinctions between officers and enlisted men. However, the proof is different, for in the cases of failure to report punctually it is not necessary to establish that the serviceman intended to depart for a particular period of time, but only that his absence or lateness was without adequate reasons. "The evaluation of the adequacy of the reasons," writes Chkhikvadze, ". . . belongs first of all to the command. Ultimately, the evaluation belongs to the court." He cites the following cases:

In 1940, Junior Commander P returned from a 7-day furlough 2 days late. On trial under Article 193(10), it was established that in contradiction to existing regulations P was not given a railway warrant and hence in returning home from his furlough suffered a delay of 2 days in obtaining a railroad ticket. P's conviction, affirmed by the Military Col-

legium of the Supreme Court, was reversed by the Plenum of the Supreme Court, on the ground that P had taken all steps open to him, that the delay was due to circumstances beyond his control, and that hence there were adequate reasons for his failure to report punctually.

Hypothetical cases are given by Chkhikvadze of the applicability of the doctrine of extreme necessity, under Article 13 of the criminal code. A serviceman who is called upon by local inhabitants or local police to fight a fire or to chase a criminal, and who, responding to such call, is delayed in reporting for duty, would be excused if he could show that the danger (spread of the fire or escape of the criminal) required his intervention; and that the danger could have caused the state greater harm than that caused by his failure to report punctually. "In the evaluation of all these factors, there should be taken into consideration all factual circumstances of the case, the conditions in which the military unit was situated, where the serviceman was supposed to report (for example, the situation of the unit in military operations)."

Evasion of service duties by infliction of self-injury, feigning illness, presenting false papers, or some other deceit is punishable under Article 193(12) by death by shooting, with confiscation of property, if committed in time of war or during military operations; in time of peace it is punishable by deprivation of freedom up to 5 years, or under aggravating circumstances, by deprivation of freedom for not less than 3 years.

The crime consists not merely in the practice of a deceit, but in the practice of a deceit for the purpose of evading a service duty. For example, a serviceman who falsifies papers concerning the financial condition of his family in order to obtain extra allotments is not guilty of violation of Article 193(12), though he may be guilty of one or more kinds of forgery of documents under the nonmilitary Articles 72 and 170. If, however, the forgery is for the purpose of obtaining a special furlough to visit his family, Article 193(12) applies. As in the case of departure without leave, a direct (or specific) intent is a necessary element of the crime.

Evasion of service duties, particularly under the pretext of religious or other convictions, is punishable under Article 193(13) by disciplinary action, deprivation of freedom for not less than 3 years, or death by shooting, with confiscation of property, depending on the circumstances.

According to Chkhikvadze, it is only necessary, under this provision, for the actor to give as a reason for his act his religious or other convictions, and it makes no difference whether or not he actually holds them. "In the Soviet Union," Chkhikvadze writes, "where every honorable citizen considers it his sacred duty to defend the land of his birth with weapon in hand, where the huge growth of enlightenment and culture stands against religious and any other survivals, religious and other convictions may not serve as a basis for liberation from military service or from individual military duties. Therefore, the law on Universal Military Service does not provide for the possibility of liberation from military service on these grounds. . . ."

The law referred to is that of 2 September 1939. Prior to its enactment there was provision for exemption from military service for religious reasons. It is possible that before the 1939 law, Article 193(13) was interpreted to apply to pretended convictions not actually held. However, it should be noted that the provision relates to evasion of service duties by men already in service.

The peculiar wording of Article 193(13), that is, the use of the word "particularly," makes it available as a catch-all provision for evasion of military service not covered by Article 193(13) or 193(2) (failure to obey an order). Thus, intentional systematic lateness for work or for military

school activities may fall within Article 193(13). Chkhikvadze notes that in the practice of military tribunals "there are instances of the application of section 13 for refusal of a serviceman to serve in one or another kind of regiment, service in which presents great difficulty."

Insubordination and Breach Of Military Honor

Article 193(2), (3), (4), and (5), respectively, make punishable as military crimes: failure to execute an order; resisting a person who is performing a service duty; coercing a person to violate a service duty; and insulting another serviceman.

Although Article 193(2) makes punishable failure to execute an order "given in the course of service," it is now interpreted to apply to any order. Chkhikvadze writes: "Any attempt to introduce a juridical line between service and nonservice relations of commanders and subordinates would be incorrect . . . For the subordinate, any order of a commander is given in the course of service and is, therefore, unconditionally binding." Chkhikvadze also states that, "the subordinate should not submit to an *obviously* criminal order." Indeed, if he knows it is criminal, he is guilty of a crime in executing it. The authors of this article have been unable to find examples which shed light on how the Soviet military courts interpret the word "obviously."

The serviceman is obliged, under Article 193(2), as interpreted, to execute orders given by his actual commanders only, and not those given by any other higher-ranking serviceman. In some instances, the actual commander may be of lower rank than the person to whom the order is issued, who must, nevertheless, execute it. When two orders conflict, the person receiving them is supposed to report the conflict to the commander giving the second order, but if the latter insists, the second order must be executed.

Article 193(2) does not refer to the subjective element of the crime indicated. Chkhikvadze states that both intentional and negligent failure to execute an order are punishable, and that the difference is generally reflected in the severity of the sentence; but that if the serviceman does not know that the person giving the order is his commander, he is excused from failure to execute it.

The usual punishment for failure to execute an order is deprivation of freedom up to 5 years. Under extenuating circumstances, disciplinary action is applicable. If committed in a group, or by commanding personnel, or if it had or could have had especially serious consequences, it is punishable by deprivation of freedom for not less than 3 years. If committed in time of war or during military operations, it is punishable by death by shooting with total confiscation of property.

Article 193(3) makes the willful offering of resistance to another serviceman in the performance of his service duties punishable by deprivation of freedom up to 3 years; and if committed by a group or with force or arms or during military operations, not less than 3 years; and if under still more aggravating circumstances, by death by shooting. There is no provision for disciplinary action under extenuating circumstances.

Article 193(4) makes willful coercion of another serviceman to violate his service duties punishable by deprivation of freedom for not less than 1 year; and if committed by a group or with force or arms or during military operations, not less than 5 years; and if under still more aggravating circumstances, by death by shooting.

Soviet writers note frequently "the very close connection" between the requirements of obedience and the rules of military honor. The disciplinary code and other sets of regulations (such as the Charter of Internal Service) establish affirmative duties and marks of respect of one serviceman to another. The military

criminal law protects military honor in Article 193(5) and (6), which make punishable an insult offered by one serviceman to another when either is engaged in the execution of a service duty. Punishments range from disciplinary action to deprivation of freedom for not less than 6 months. Distinctions are made between insult by violent act and insult by word or nonviolent act, between insult by a subordinate to a superior, and between insult by a superior to a subordinate, as well as insult by one serviceman to another where there is no relationship of superiority and subordination.

An insult (the Russian word is *oskorblenie*, which may also be translated as affront) is a crime in Soviet law generally. It is punishable under Article 159 of the RSFSR Criminal Code by a fine up to 300 rubles or by public censure, if offered orally or in writing; by corrective labor tasks (deduction of a percentage of wages) up to 2 months, or a fine up to 300 rubles, if offered by an act; and under Article 160 by corrective labor tasks up to 6 months, or a fine up to 300 rubles, if offered in printed words or pictorial representation or widely or publicly distributed.

Chkhikvadze defines the military crime of insult as "the expression of a negative evaluation of the human and military dignity of a serviceman, given in a form which is considered improper (*neprilichnoi*), that is, contradictory to the requirements of Soviet military discipline and the rules of socialist community life."

An insult by violent act is distinguished from the inflicting of physical harm punishable under other articles of the criminal code and other sections of Article 193. It includes an insulting bodily movement toward another (*nepristoinyizhest*).

The qualification that the act, to be criminal, must be committed "when either is engaged in the execution of a service duty" is interpreted as superfluous in the case of an insult to a commander, since "commanders are always in the execution of service duties in relation to their subordinates."

Crimes Against Military Property

Soviet military property is a form of public, socialist property, of which Article 131 of the Soviet Constitution states: "Every citizen of the USSR shall be obliged to preserve and guard public, socialist property as a sacred inviolable basis of the Soviet order, as a source of wealth and might of the motherland, as a source of the prosperity and culture of all toilers. Persons who infringe public, socialist property are enemies of the people."

Every Soviet serviceman, in taking the military oath, swears "in every way to preserve military and national property."

Laws of 7 August 1932 and 4 June 1947 impose heavy sanctions upon theft of socialist property. The 1932 law made such theft punishable by deprivation of freedom for not less than 10 years, with confiscation of property, and under certain aggravating circumstances by death by shooting. The 1947 law, passed 9 days after the abolition of capital punishment, provides for internment in a corrective labor camp for 7 to 10 years, with or without confiscation of property, for theft of state-owned property, and 5 to 8 years, with or without confiscation, for theft of collective-farm or co-operative property. For a second offense, or for commission by an organized band or on a large scale, the maximum penalty is 25 years, with confiscation. These provisions are applicable to theft of socialist property, including military property, by servicemen.

However, servicemen also may be tried under military law for a special type of military property crime defined in the military article of the code. Article 193(14) makes punishable the embezzlement, destruction, or abuse of uniform or equipment entrusted to a serviceman. The punishment in time of peace is deprivation of freedom up to 1 year, or, under extenuating circumstances, disciplinary

action; in time of war, not less than 1 year; but if the act is committed in respect of weapons, cartridges, or means of transport, the punishment is deprivation of freedom up to 3 years, and in time of war and under aggravating circumstances death by shooting. One who receives an article covered in this section, knowing it to have been embezzled, is equally punishable as an accomplice.

Breach of Rules of Sentry, Convoy, and Guard Duty

The provisions of Article 193(15) and (16) impose penalties ranging from disciplinary action to death by shooting for crimes under this heading.

Military Official Crimes

Abuse of authority, excess of authority, neglect of authority, or negligent attitude toward service duties, committed by commanding personnel, are crimes punishable under Article 193(17). They are the military analogues of official crimes punishable under Articles 109-121 of the code, and are interpreted in the light of those articles.

Article 109 defines abuse of authority or of official position as "any act of an official which he can commit solely by virtue of his official position and which, not being required by considerations of official necessity, results in a clear interference with the correct work of the institution or enterprise or causes it property damage or causes interference with public order or with legally protected rights or interests of individual citizens."

Chkhikvadze gives several hypothetical illustrations of military abuse of authority: the commander of a motor pool who uses trucks entrusted to him for the carriage of private freight; the commander of a supply depot who distributes products without observing required formalities and illegally supplies them to persons of his acquaintance; and the commander of a military institution who expends for current needs funds assigned for money reserves, counting upon receiving in time assignments to cover the expenditures.

Excess of authority is defined in Article 110 as "the commission of acts clearly going beyond the limits of rights and powers given by law to the person committing them." The corresponding part of Article 193(17) applies, for example, to the unjustified use of force by a superior officer on a subordinate, and was applied by the Supreme Court of the USSR in a ruling of 7 June 1946 to the killing of a subordinate by his commanding officer. Neglect of authority is defined in Article 111 as "the nonperformance, by an official, of any act which, under the obligations of his office, he ought to have performed." Negligent attitude toward official duties is defined in Article 111 as "a careless or unconscientious attitude toward duties imposed by office, if it results in procrastination, retardation in the carrying on of affairs and of accounts."

In all forms of official crimes, harmful consequences are a necessary element.

Article 193(17) is not applicable to all cases which are covered by Articles 109, 110, and 111. Under the military article, the offensive act must be committed systematically, or from mercenary or other personal interest, or must have had serious consequences such as the disorganization of forces or of a task entrusted to the person charged or the disclosure of military secrets, or must have been known to such a person to be likely to result in such serious consequences, or must have been committed in time of war or during military operations.

Servicemen who are not officers, but who are executing official functions, may be punished under Article 193(17).

The sanctions provided for violation of Article 193(17) are: deprivation of freedom for not less than 6 months, or, under especially aggravating circumstances, death by shooting. Without the special circumstances listed in the provision, mere abuse, excess, or neglect of authority, or

negligent attitude toward service duties is punishable by disciplinary action.

Special types of military official crimes are defined in Article 193(18) and (19). Article 193(18) provides for punishment of commanders who prevent subordinates or their families from receiving benefits or privileges to which they are entitled. Chkhikvadze states (without citing authority or giving reasons) that intent is a required element of this crime (that is, criminal negligence alone is not sufficient). Article 193(19) makes punishable the illegal employment of a subordinate by a commander in the discharge of personal services to the commander or his family.

Disclosure of Military Secrets

Under the law of 9 June 1947, servicemen who disclose military information which is a "specially to be guarded state secret" are punishable by imprisonment in a corrective labor camp from 10 to 20 years. In an accompanying decree, such protected military information was defined to include practically all conceivable types of information bearing not only upon military plans and operations, but also upon the physical and economic reserves of the state (including "human reserves subject to mobilization"), war industry, and technical means of defense.

Disclosure of such information is punishable if committed either intentionally or negligently.

The 1947 law amends Article 193(25) (a) of the criminal code, which made "the disclosure of information, specially to be guarded as a state secret, about the armed forces and defense capacity of the USSR" punishable by deprivation of freedom for not less than 1 year. However, Article 193(25)(b), providing for "the highest measure of social defense, with confiscation of property" if such disclosure causes, or to the knowledge of the offender might have caused, especially serious consequences—may still remain in force.

The disclosure of military information not intended for disclosure, but which is not a "specially to be guarded secret," remains punishable under paragraphs (c) and (d) of Article 193(25)—by deprivation of freedom for not more than 1 year, or, under extenuating circumstances, by disciplinary action.

Battle Crimes

Article 193(20), (21), (22), and (23) make punishable:

1. Surrender to the enemy, by a commander, of military forces entrusted to him; abandonment to the enemy, destruction or rendering useless, by a commander, of any fortification, warship, military aircraft, artillery, military depot, or other means of waging war entrusted to him; and failure of a commander to take appropriate steps to destroy or render useless these means of waging war if immediate danger of capture by the enemy is threatening and all means of saving it have already been tried.

2. Unauthorized retreat by a commander from the battle dispositions assigned to him.

3. A serviceman's unauthorized abandonment of the battlefield, surrender not called for by military operations, refusal to fight in time of battle, or going over to the enemy.

4. Abandonment of a sinking warship by the commander without having carried out to the last his service duties, or by the crew without the appropriate decision of the commander.

If acts listed under 1 and 2 are committed for the purpose of assisting the enemy, they are punishable as military treason; otherwise they are punishable only if they are done "in violation of military rules." However, Chkhikvadze states that "surrender of military forces to the enemy is not permitted under any circumstances." Likewise, he states that "not a single military rule permits, or can permit, unauthorized retreat from assigned

battle dispositions." By unauthorized (*samovol'no*) is meant without specific orders from superiors. "Only under those entirely exceptional circumstances when a suddenly and rapidly changing military situation dictates a decision contradicting the received disposition, and there is no possibility of receiving a new order, must the commander show initiative and take upon himself the responsibility for retreat from dispositions . . . In such exceptional circumstances the acts of the commander . . . will be evaluated on the basis of a thorough study of the given situation, the correspondence of the commander's decision to that situation, and the results of the decision made . . . If as a result of such thorough evaluation it is considered that the commander acted incorrectly . . . then it will be concluded that there was a breach of military rules imposing responsibility for unauthorized retreat from assigned battle dispositions under paragraph "b" of Article 21 of the statute. If it is considered that the commander acted correctly and the retreat from assigned battle dispositions was actually called for by the suddenly changing situation, that will mean that the military rules were not violated and criminal responsibility falls away." Comment would be superfluous.

The punishment for the acts listed under 1 and 2, assuming no treason, are: deprivation of freedom for not less than 3 years, and under aggravating circumstances death by shooting, with confiscation of property.

No qualifications are made in regard to unauthorized surrender or related acts listed above under 3. Even being lightly wounded, or losing the use of one's weapon, or the lack of ammunition do not justify a serviceman's abandonment of the battlefield, surrender to the enemy, or refusal to fight in time of battle. Only "if a serviceman were taken prisoner by force and did not have the possibility of making resistance (for example, if he were seriously wounded), this is not an unauthorized act of surrender and, therefore, cannot be viewed as a criminally punishable act." The punishment is death by shooting.

Abandonment of a sinking warship by a commander before fulfilling, to the last, his service duties (organizing the rescue of persons, freights, valuables, and documents; or destroying freight, valuables, and documents that might otherwise fall into enemy hands), or by members of the crew except at the order of the commander, is also punishable by death by shooting.

Crimes in Violation of International Conventions

Under Article 193(29), (30), and (31), ill-treatment of prisoners of war and unauthorized use or abuse of Red Cross or Red Crescent emblems are made punishable as military crimes, in accordance with The Hague Convention of 1907 and the Geneva Convention of 1929. Apparently there have been no prosecutions under these provisions, judging from Chkhikvadze's statement that "in the Soviet Army—a highly disciplined army serving lofty progressive aims"—these crimes "in practice did not occur."

Why Not Use the Weather?

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The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

A GREAT deal has been said and written about the importance of weather and its effects on military operations. A close analysis, however, will reveal important gaps between the lip service given to the importance of weather, and its actual use, especially from the tactical point of view.

Historically, weather has been used by the "Great Captains" of all ages. As far back as 500 B.C. the great Chinese general, Sun Tsu, devotes a chapter to it. Vegetius, the old Roman historian, also mentions it in describing Roman tactics. Later, Napoleon and Napoleon III were to learn the hard way and to sponsor the development of our present weather communications system. The British also benefited by great storms that wrecked the Spanish and French invasion fleets and kept that tight little island free up to the present.

During modern times, we find weather information used primarily for planning purposes, usually at a high level. General Eisenhower's plan and go-signal for the invasion of Normandy are good examples. Proper planning for the type of clothing, supplies, and fuels and lubricants needed for a given campaign are obvious, but what about after the campaign is under way, after D-day has been picked and the infantryman is up to his posterior in the mud of the front lines—how can he use the weather to advantage?

What Information Does the Army Have?

The average army officer below the corps level has only a general idea of the sources of weather information. He knows that the weather forecasts come down from corps or army via G2 channels, and that they are quite general in nature, but they usually can tell whether it is going to rain or snow during the next 24 hours.

Actually there is a widespread organization working in each theater, especially organized to provide detailed weather forecasts and special studies to both the Army and Air Force units.

A theater weather service is normally established under the direction of the theater air force commander. This service may comprise personnel from the Navy and Air Force weather services, and from allied weather services. The Weather Bureau, which is strictly a civilian organization under the Department of Commerce, limits its activities to civilian needs in the Zone of Interior, and to certain stations outside the Zone of Interior during peacetime. It has no direct connection with the military weather services except one of close co-ordination and co-operation for the exchange of information, and, during war-

time, it contributes many of its personnel to the military weather services.

The Air Weather Service, an Air Force organization, has the mission of providing most weather data, with a few exceptions, for both the Army and the Air Force (see Figure 1). This weather service was developed before World War I by the Signal Corps and just prior to World War II was transferred to the Air Corps where it was renamed the Air Weather Service, under the Unification Act. Regardless of title and who it works for, it is a hard-working, far-flung organization, operating on a 24-hour basis in peace and war, making observations and preparing forecasts for both the Army and the Air Force.

The Air Weather Service is organized into wings, groups, squadrons, and detachments. The detachment is the operating unit and varies in size from a small observing unit to more than a hundred officers and men in the larger weather centers, such as the TAC (tactical air command)-army group, or TAF (tactical air force)-army joint operation centers that serve the high-level headquarters.

Normally, a weather wing is the largest weather unit in a theater, and may comprise several groups. Each major air command now has a weather group assigned to it, and the group assigned to a tactical air command has the additional duty of serving the adjacent army group. The reason for this organization is that the various air commands have forecasting requirements peculiar to their operation and a group permanently assigned to it can better provide these forecasts. For example, forecasts for the units of the Strategic Air Command are often of a 24-, 48-, or even 72-hour duration, covering very large areas. Air Defense Command forecasts are primarily concerned with weather conditions that would affect the relatively short range of its interceptors. For the same reasons, the weather group assigned to a tactical air command will have at least one mobile squadron specially trained and equipped to work with Army units.

The major forecasting units in a theater are installed adjacent to the joint operations centers at the TAC-army group and TAF-army levels; these centers are staffed and equipped to make any type of weather forecast or climatological study and to prepare the weather maps that are sent to the weather detachments at the various air bases and corps. All weather forecasting units are tied in to these weather centers by teletype and facsimile networks. Thus, when necessary, a weather map can be drawn in Washington or Tokyo and forwarded via radio facsimile to any theater of operations.

Weather squadrons, of which there are several for each group, are chiefly administrative headquarters for the various weather detachments under them. These detachments are, in a sense, similar to intelligence teams in that they are tailored to fit requirements. A detachment at a satellite airfield might be an observing unit only, while the mobile detachment at corps headquarters would have a complete forecasting and possibly an upper air section.

Information is exchanged between the meteorological section of the corps observation battalion and the weather service. This meteorological section is an army unit, trained and equipped to furnish ballistic data to artillery units only.

Historically, weather has been used by the 'Great Captains' of all ages. A close analysis, however, will reveal major gaps between the lip service given the importance of weather and its actual tactical use

It does not make any forecasts. The corps weather detachment, air force, can fill out its observation net by sending observer teams into division areas to get weather reports from the tactical air control parties, and, when required, from artillery observers in key locations.

quired to implement the commander's decision by the divisions at army or corps level. The army commander is briefed on the weather situation daily in the joint operations center, but this is only to keep him informed of the current situation. Any decision based on expected weather

FIGURE 1.

One may well ask, why does the army not have its own weather service? The principal answer is that the Air Weather Service is already operating in the army or army group area, and a duplication of such a service is expensive in terms of equipment and personnel. The present requirement for personnel in the weather service is a minimum General Classification Tests of 110; in wartime personnel of this caliber are in short supply.

What Kind of Information Is Supplied?

Weather forecasts for air force units are primarily operational forecasts, although extended period forecasts are often used in planning. However, most forecasting for the Air Force is usually for a relatively short period (6 to 24 hours). This is not the case where the Army is concerned because of the greater time re-

conditions must have been made days in advance.

The types of weather forecasts available to army units fall into three broad classes:

1. *Short-period forecasts* (forecasts were formerly called short and long range).—These forecasts are those made for tactical operations, and vary from 6 hours to as long as 24 or 48 hours in duration. They generally are quite accurate having an average validity of near 85 percent. Such accuracy provides a valuable tool to the army commander.

2. *Extended-period forecasts.*—These are forecasts for a period of more than 48 hours and should be used primarily for planning purposes. They are much better than climatic averages, but are not usually accurate enough for tactical use.

3. *Climatological Studies.*—These are studies which may be prepared for large

or specific areas, based on climatic averages for the area in question, which were taken over a long period of time. They are used for preliminary planning only to provide an estimate of the climatic average and extremes to be expected. Such studies are of value to the quartermaster corps, ordnance corps, and other services when developing new supplies and equipment. They also are of value when determining the best time of the year to launch a major campaign.

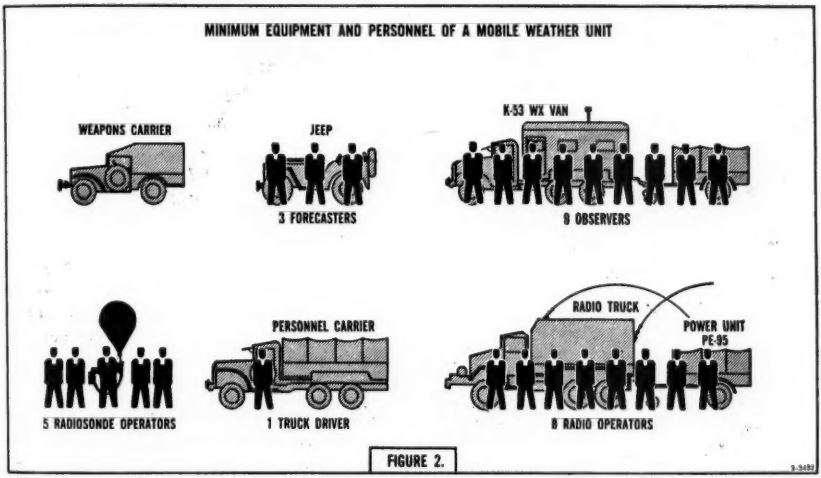

FIGURE 2.

Some good historical examples of the use of an extended-period forecast might include General Eisenhower's decision for the landings in Normandy. This invasion was predicated upon a 5-day forecast, but the decision was finally made on a 72-hour forecast made jointly by the Air Weather Service and the British services. Classic examples of the proper use of such a forecast were furnished by the Germans when they waited for a certain weather pattern to sneak their cruisers through the Channel, and upon another occasion when they used the weather to cover their build-up for the "Battle of the Bulge." Here are two cases where certain weather conditions were sought and prepared for and where advantage was taken of them. In a future war, we will do well to follow this example.

The Army's record for using weather to advantage at high levels is good. In World War II, both at the army and army group levels, the commanders took advantage of the weather information furnished. General Bradley was especially cognizant of how weather could influence the battle, and General Patton, during late December 1944, being dissatisfied with his normal weather forecaster, directed his chaplain to pray for good weather, and upon getting it, awarded the chaplain the Bronze Star. Normally, chaplains are not included in the weather personnel roster.

Below the army and army group levels, however, the record is not so good. During World War II, there was not sufficient personnel and equipment to attach a mobile weather unit to each corps. However, full advantage was not taken of those forecasts that were received. The reasons for this were many. First, few commanders understood, or at present understand, the assistance that a good tactical forecast

can be to them; as a result they accepted any weather information sent down and did not ask for specific information that could have been of greater value. Because communications channels were not sufficiently clear, and although the G2 dis-

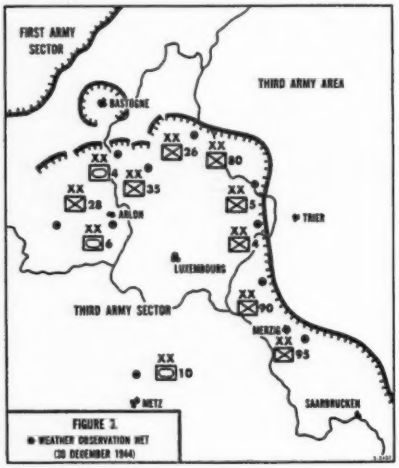

FIGURE 3.
WEATHER OBSERVATION MET
(20 DECEMBER 1944)

seminated this information, it was received too late to be of value to divisions and lower units.

The remedy for this seems to be in making more commanders aware of the possibilities of the tactical use of weather. It appears that, if a major war starts, we will be inferior numerically, both on the ground and in the air. This will be the first time the American Army will have enemy air on their backs; what can they do about it? Before our own air can gain superiority, the ground units will have to move at night and during periods of bad weather. There is a possibility that during the winter months in some areas, an artificial cloud layer can be created covering daylight movement. Periods of low visibility also can offer us a chance to move or attack with minimum losses. Mobility, which is closely related to the type and duration of precipitation, will become of greater importance, for if we are inferior in numbers, we will have to capitalize on our greater mobility to apply the principles of maneuver, mass, economy of forces, and surprise.

Let us take a typical weather forecast (see forecast on page 22) and see how it can apply to division and subordinate units.

The forecast for ceilings and cloudiness indicate that during part of the night a low stratus cloud layer will obscure the light from the full moon and will be low enough to be used to illuminate the battlefield.

As ceilings will be unlimited after 0300 until noon, and will not drop below 5,000 feet during the forecast period, they will not affect the planned air support for the next day nor will they tend to limit, to any degree, enemy air activity. However, the rain forecast for 11 August probably will restrict all air activity severely.

Visibility.—Visibility will be less than 1 mile between 0400 and 0700 in fog—this should give concealment to troops moving out of assembly areas from both ground and aerial observation and patrols also could use this to advantage. Visibility lifting to 3 to 6 miles throughout the rest of the period will be sufficient for aerial activity but will limit observed artillery fire.

Precipitation.—None is forecast for the period, but the further outlook of moderate to heavy rain after 0400 11 August should cause commanders and staff officers to consider the effects of the heavy rain on their logistic support. Soil trafficability forecasts should be obtained from the engineers, and operational plans involving considerable movement during this period should be reviewed. Some thought should be given to the possibility of the local streams and rivers overflowing their banks and the engineers should be alerted to maintain and repair roads and bridges in the area. Traffic on the roads on 11 Au-

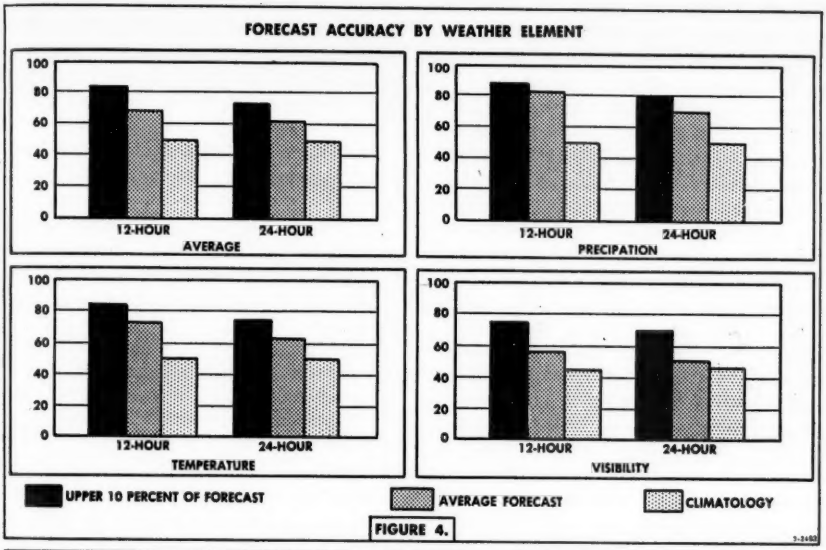

FIGURE 4.

LIMITS AND ACCURACY TO BE EXPECTED OF WEATHER FORECASTS IN ZONES OF VARIABLE WEATHER

TIME OF FORECAST	12 HOURS	48 HOURS	10 DAYS	1 MONTH	3 MONTHS
TIME ACCURACY	WITHIN 1 TO 4 HOURS	WITHIN 6 TO 12 HOURS	UP TO 24 HOURS	TIMING FOR SPECIFIC EVENTS POSSIBLE ONLY IN GENERAL TERMS	TIMING DOUBTFUL
WEATHER ELEMENTS PREDICTABLE	IN COMPLETE DETAIL	IN DETAIL FOR GENERAL FEATURES	SEQUENCE AND PATHS OF STORM AND ANTICYCLONE SYSTEMS WITH ATTENDANT WEATHER	GENERAL WEATHER REGIMES	CHARACTER OF SEASON
GEOGRAPHICAL ACCURACY	ON THE ORDER OF 10 TO 100 MILES	ON THE ORDER OF 100 TO 400 MILES	WITHIN 5 TO 10 DEGREES OF LATITUDE	SECTIONS OF CONTINENTS OR OCEANS	CONTINENTS OR OCEANS
PERCENT OF TIME CORRECT WITHIN THESE LIMITS	80 TO 90	60 TO 90 DEPENDING UPON CLIMATE AND SEASON	60 TO 75	40 TO 70	40 TO 60

FIGURE 5.

Figures 4 and 5 indicate the forecasting accuracy in the ETO during World War II. Average short-period accuracy of better than 85 percent can be expected in the future.

gust should be restricted to that essential to the conduct of the battle.

The full moon will be cancelled out by the low clouds during the period.

Beginning of morning nautical twilight at 0415 will be of little value, as the fog will tend to limit visibility until several hours later.

There are two important considerations when planning from such a weather forecast. First, there are bound to be some errors in the forecast; therefore, commanders and their intelligence officers should weigh the effects of such errors. For example: the low stratus cloud layer that will obscure the full moon during the early morning hours probably will be as forecast. However, it may break up earlier or remain later. The moderate to heavy precipitation forecast for the next day may start much later, or may begin prior to midnight, or be less intense than forecast. Therefore, flexibility in planning should be maintained. Of all the factors that can cause errors in forecasting, the timing element is the most common.

The second point to consider is that once a forecast has been made, say for a 24-hour period, this is not the end, but forecasts are usually made every 6 hours, and changes in the forecast can be sent down. It is a G2 responsibility to disseminate the weather data to subordinate units and the corps G2 should screen the forecast changes to determine if a follow-up forecast is necessary. Standing operating procedures should be established to avoid disseminating minor weather changes that have no importance, but provision should be made to ensure that major changes in

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WEATHER FORECAST FOR X CORPS AREA FOR PERIOD 0030 10 AUG TO 0030 11 AUG 19____, PREPARED BY CORPS WEATHER DETACHMENT.

GENERAL SITUATION: WEAK HIGH PRESSURE CELL WHICH PRESENTLY DOMINATES THE AREA WILL MOVE SLOWLY EASTWARD FOLLOWED BY A COLD FRONT, INCREASING CLOUDINESS.

CEILING AND CLOUDINESS: LOW STRATUS OVERCAST FROM MIDNIGHT TO 0300 BECOMING SCATTERED FOR REST OF MORNING. INCREASING CLOUDINESS IN AFTERNOON BECOMING BROKEN WITH CEILINGS 6,000 TO 8,000 FEET BY 1400 AND OVERCAST WITH CEILINGS LOWERING TO 3,000 TO 4,000 FEET BY 1700 REMAINING OVERCAST THROUGHOUT REST OF PERIOD.

PRECIPITATION: NONE. SEE FURTHER OUTLOOK.

VISIBILITY: UNRESTRICTED UNTIL 0400 BECOMING LESS THAN 1 MILE 0400 TO 0700 IN FOG 1-3 MILES 0700 TO 0900 3-6 MILES IN SMOKE AND HAZE THEREAFTER.

TEMPERATURES: MAX 77; MIN 52.

FURTHER OUTLOOK: MODERATE TO HEAVY RAIN CAN BE EXPECTED AFTER 0400 11 AUG.

BEGINNING OF MORNING NAUTICAL TWILIGHT (BMNT) 0415
END OF EVENING NAUTICAL TWILIGHT (EENT) 1850

MOON RISE 1836 STATE OF MOON: *FULL*
MOON SET 0314

a given forecast reach the interested units in time to be of value. It is in this latter respect that G2s have fallen down in the past and more thought should be given to proper dissemination of this information.

Future Trends

With the Army becoming more and more involved in air operations, both directly and indirectly, with air transport and large airborne operations fairly common, and aerial supply almost a daily necessity, weather conditions as they affect this type of flying make the Army more and more dependent upon good weather and an adequate weather service.

The development of the "fantastic weapons," all indicate that atmospheric conditions will still play a vital role in the efficient use of these weapons.

With our obvious numerical inferiority in both personnel and aircraft for the next several years, we must utilize every means at hand to overcome this handicap. The proper use of the weather forecast can be a great assistance in applying the principles of war to this situation, especially the principles of maneuver, mass, economy of force, and surprise.

What Is the Problem?

General Marshall, and General Foch before him, often asked the question—"What is the problem?"

The problem here is to put the weather to work to aid the men on the front line. It is not enough to plan at high levels or use a weather forecast in making the larger decisions, but weather should be put on a day-to-day working basis to assist the front-line battalions in taking their objectives. To state, "To hell with the weather, we have to go anyway" is a short-sighted view. A valuable tool is available if proper thought is given to its employment.

The Air Weather Service can increase the scope and efficiency of its service to the Army if it is given a requirement to that end. The Army, however, will have to have a better understanding of its needs in this respect before the weather can really be put to work.

This is a turning point in history. The great civilizations of the past, when they reached the apex of their power, have misused, or failed to use to good ends, the power they had. They, therefore, have gone on to decay and destruction. Military strength, unless it is used to build the institution of peace, is militarism, and can produce only disaster.

Secretary of the Air Force Thomas K. Finletter

Counterattack—Flanks or Nose?

Lieutenant Colonel William H. Bedford, Jr., *Artillery*
Instructor, Command and General Staff College

DURING any war involving the employment of ground armies, there occur periods when either combatant may, for varying reasons, be forced to take up the defensive. The general object of defensive combat is to gain time pending the development of more favorable conditions for undertaking the offensive, or to effect economy of force in one area for the purpose of concentrating superior forces for decisive action elsewhere.

Defensive operations in themselves do not achieve victory, but, properly planned and aggressively conducted, they can achieve success in the immediate mission involved. In this respect, the planning for and conduct of the defense are correlated, and the aggressive spirit of the defense is embodied in the counterattack. Doctrine governing counterattacks in general is contained in the following excerpts from Field Manual 100-5, *Field Service Regulations, Operations.* (The italics in the following quotations were added by the author.—The Editor.)

641. a. Counterattacks are of two general types—those designed to restore the original position by striking the hostile attack in flank, and those designed to trap and destroy the penetration at a point particularly favorable to the counterattack.

b. *The basic essential of the first type counterattack is a favorable axis of attack which will strike the flank of the hostile penetration* and also afford dominant observation along the selected axis. *In planning to strike close to the base of the salient created by the hostile penetration,* care must be taken to avoid friendly defense areas. These areas furnish valuable fire support which must be integrated into a carefully co-ordinated fire plan employing all available artillery and supporting weapons. Selection of a series of possible lines of departure and objectives along the selected axis affords flexibility.

c. Counterattacks of the second type, *though they are limited in character,* can be planned in greater detail due to the fact the area of the counterattack is definitely determined. Such detailed plans are justified primarily in an area where a hostile penetration is considered likely. The counterattack should be designed to take the enemy at maximum disadvantage, preferably at the time when his penetration has progressed to a point where his attacking forces, including their fire support, are disorganized.

* * * * *

644. Time is required for the preparation for a major counterattack. Sufficient reserves must be assembled to carry the attack forward. Adequate fire support must be arranged. Assembly areas, zones of action, objectives, and time of attack are clearly specified. Surprise is an important factor. Employment of artillery, chemical troops, and armored units is regulated and controlled by the higher commander. *Whenever practicable, the counterattack is launched against the flanks of the hostile salient.* Advance planning for such an operation is essential in order to reduce to a minimum the time required in final preparation.

In view of the emphasis placed on the desirability of counterattacks along an axis which strikes the *flanks* of a penetration, it is worth while to consider *another* type counterattack which deliberately strikes the *nose* of the penetration.

The following discussion has been extracted from Department of the Army

Pamphlet No. 20-233, *German Defense Tactics Against Russian Break-Throughs*, a publication of the German Report Series. The reader is reminded that all publications in the German Report Series were written by Germans from the German point of view and that the procedures of the German Army differed considerably from those of the United States Army. Throughout this pamphlet the point of departure for tactical innovations was official German combat doctrine and authorized German tables of organization and equipment. Moreover, it must not be overlooked that during the period covered a fundamental condition of German operations in Russia was the almost consistent German inferiority in both manpower and matériel. Various other factors colored the authors' thinking in ways unfamiliar to Americans. Every effort has been made to retain the point of view, the expressions, and even the prejudices of the authors.

Frontal Counterattack

One of the simplest methods of sealing off a break-through or eliminating a penetration is the frontal counterattack. Usually, such a counterattack can be launched only if the break-through is minor and can be localized, and if both shoulders are secure. Moreover, sufficient reserves must be available to close the breach by a quick counterthrust before the enemy is able to widen the gap. Once hostile preparations for a break-through have been clearly recognized, it is most effective to move the reserves close to the rear of the threatened sector. While the reserves must be close enough for instantaneous effective employment, they should be sufficiently removed from the front line so as not to forfeit prematurely their freedom of maneuver. In their assembly areas, the reserves must be concealed from enemy observation and air attacks, and must not be exposed to hostile preparation fire. Obviously, reserves should have maximum fire power and mobility; armored divisions come closest to these requirements because they combine tremendous striking force with concentrated fire power. Infantry supported by assault guns will often restore the situation so long as the break-through is local.

A counterattack is far more complicated, if, before its effect is felt by the enemy, the shoulders begin to crumble, the breach is widened, and the enemy attack gains ground in depth. But even in this event, it is best to maintain the tactical integrity of the reserve so that upon commitment it can overrun the enemy infantry in one powerful thrust and regain the key positions of the former line. Only then should attempts be made to close the smaller gaps by flanking actions. As a countermeasure against the disintegration of the shoulders and as support to the flanking actions, it will prove effective to protect the open flanks of the break-through area with artillery and to assemble small local reserves behind the shoulders of the penetration. Frequently, one infantry company supported by assault guns will suffice for this purpose.

It would be a mistake to attempt to close an extensive breach across its entire width by overextending the attack frontage of the main reserve force. A counterattack delivered under such circumstances would not have sufficient striking power and would be in danger of losing its punch and

Current doctrine governing counterattacks emphasizes the desirability of striking the flanks of an enemy penetration. However, proper application does not preclude striking the nose of an enemy penetration

bogging down before it reached its objective. On the other hand, a delayed commitment of the reserves will result in an expansion of the breach; then, the counterattacking force will be faced with an entirely new situation with which it will be unable to cope alone. Such a delay often leads to heavy losses which can only be offset by committing additional forces.

Whenever the enemy achieves a major break-through that causes the collapse of a wide sector of the front (30 miles or more), the local reserves will always be insufficient to close the gap by frontal counterattack. Piecemeal commitment of individual divisions in a gap of this width will simply lead to their engulfment by the advancing hostile avalanche. Only a strong force consisting of several corps will be able to stem the tide and halt the enemy advance in the depth of the defense or to close the gap by a counterattack. There will usually be a considerable time lapse, however, before a force of such strength can be released from other sectors and moved to the break-through area. Meanwhile, attempts must be made to narrow the breach by withdrawing to a shorter line and by strengthening the resistance in the sectors adjacent to the gap.

The German offensive to recapture Kharkov and Belgorod presents a good example of a frontal counterattack. By 23 November 1942, the Russians had closed the ring around Stalingrad and started the most powerful winter offensive of the war (see Figure 1). Advancing rapidly, they annihilated in quick succession the Rumanian, Italian, and Hungarian units along the Chir and Don Rivers, and opened a 350-mile gap in the German front. This breach was equal to the total length of the Western front in World War I. Initially, only isolated German divisions, committed in support of the allied and satellite forces, stood in the way of the Russians, like the stays of a corset. The bulk of the German reserves, including five fully equipped panzer divisions, were tied down in Western Europe because of the invasion of North Africa by allied forces. Some of these divisions later appeared on the Eastern front. The German armies in the Caucasus, in danger of being cut off, were forced to withdraw. Their motorized units, mainly the First Panzer Army, were committed along the Donets River in order to strengthen the southern wing of Army Group Don. North of the gap, the Second Army was forced to evacuate Voronezh and the Don front, and its southern wing was pushed far back to the west. Gradually, two-thirds of the entire Eastern front began to sway and crumble. Russian pressure mounted constantly, and the only solution was to withdraw farther and farther to the west.

The Russians poured in a never-ending stream of hastily reorganized divisions and continued their drive. Three hostile armies converged on Kharkov, and, in mid-February 1943, succeeded in capturing this important traffic center by a concentric attack (see Figure 2). But their next thrust, aimed at Poltava, ground to a halt 30 miles short of the city because the Soviet troops were too exhausted to continue. Now they placed all their hopes in the Third Tank Army commanded by their most capable tank expert, General Popov. In mid-February, Popov advanced practically without resistance in the direction northwest of Dnepropetrovsk with the apparent intention of reaching the Dnepr bend. His objective was to cross the Dnepr River before the German forces were able to build up their defenses along the river, but it soon became obvious that his forces lacked the necessary drive. Meanwhile, the Germans were building up strength for a frontal counterattack.

The divisions arriving from the West detrained at Poltava behind a defensive screen established by Provisional Corps Raus. This corps held the line with three infantry divisions and the reconnaissance regiment of the 3d SS Panzer Division. Its other motorized elements, the Panzer

Division Grossdeutschland and the Fuehrer Escort Battalion, were in rest areas west of Poltava, close to the front. They formed a mobile reserve to be committed in the event that the enemy attempted to capture Poltava by an enveloping thrust through the gap to the north. The Russians actually tried to outflank Poltava, but this danger was eliminated by German infantry supported by the reconnaissance regiment and tactical Luftwaffe units. During these actions, the enemy showed definite signs of weakness and exhaustion, and the time for a major counterattack seemed to be approaching.

FIGURE 1.

Quick action was indicated since the snow was beginning to thaw. Mud formed on the ground and soon all movements would become impossible. But deep down the soil was solidly frozen. Cold nights prevented a quick thaw and favored movements during the early morning hours. Meanwhile, the battle-weary German front-line troops were granted a short breathing spell, and given the opportunity to integrate newly arrived replacements and equipment.

By 10 March 1943, the counterattack forces stood ready to jump off; their morale was excellent. The main effort was placed on the southern wing where terrain conditions favored the employment of armor. Here, the Panzer Division Grossdeutschland was assembled and given the mission of attacking toward Valki. Adjacent on the left, the 320th Infantry Division jumped off after a preparation from all guns of two divisions, supported by corps artillery. The infantry penetrated the enemy positions, mopped up a strong point on the main Poltava—Kharkov highway, and pushed the enemy beyond a flooded brook on the other side of the town. This normally insignificant water course had suddenly grown into a raging torrent which brought the attack to an unexpected halt after a gain of only 1 mile. The tanks of the Panzer Division

Grossdeutschland attempted to overcome the swift current farther upstream and finally succeeded in crossing after several hours. More than 80 tanks broke through the second enemy position on the east bank of the brook and rolled toward Valki. Soon, an improvised bridge was thrown across the brook and the attack regained its momentum. In the sector adjacent to the north, the 167th and 168th Infantry Divisions penetrated the enemy positions after heavy fighting, captured a number of villages, and attempted to establish contact with the LI Infantry Corps on the left. The reinforced reconnaissance regiment, committed between the 320th and 167th Divisions, closed in on the enemy positions situated in the woods and penetrated deep into the forest. Its tanks advanced along the railroad tracks running parallel to the woods. By afternoon Provisional Corps Raus was making progress along its entire front and kept the crumbling enemy forces on the move.

On the second day of the thrust, the corps committed all its forces in a concentric attack on Bogodukhov. For this purpose, the corps zone was narrowed to 10 miles. Its width had already been reduced from 60 to 25 miles by the end of the first day. The enemy forces holding Bogodukhov were unable to resist the onslaught of the German ground troops which were closely supported by the Luftwaffe. The city fell after brief house-to-house fighting. Provisional Corps Raus then established contact with the spearheads of the I SS Panzer Corps which had just entered Olshany, 15 miles southeast of Bogodukhov. After annihilating strong enemy forces in the Olshany area, the I SS Panzer Corps turned to the east to envelop Kharkov and cut off the enemy's route of withdrawal to the north.

While the main force of Provisional Corps Raus was to advance northward in an attempt to establish contact with the LI Infantry Corps, and thereby cut off the enemy forces in the Akhtyrka area, the 320th Infantry Division was to screen the pivoting movement of the I SS Panzer Corps. Ever increasing mud and floods slowed the advance at every step. Although all bridges across the swollen Vorskla, Udy, and Lopan Rivers had been destroyed, the infantry and panzer units were, nevertheless, able to reach their daily objectives. Many motor vehicles and horse-drawn artillery pieces, however, bogged down along the way. On the other hand, the considerably lighter artillery of the Russians and their Panje (Russian peasant) wagons pulled through everywhere and escaped the German advance.

The Panzer Division Grossdeutschland carried the main effort and reached the upper Vorskla, with the 167th Infantry Division following closely. Since the LI Infantry Corps on the southern wing of the Second Army lagged far behind, no contact with that corps could be established, and the enemy around Akhtyrka escaped encirclement. The continuation of the operation by a thrust on Tomarovka required the panzer forces to pivot to the east, changing the direction of their advance. They were replaced by elements of the 167th Infantry Division which were to hold a line facing north to provide flank cover. The advance toward Tomarovka was delayed because territorial gains toward the east automatically led to an extension of the open flank.

By the second day of this eastward thrust, the strong 167th Infantry Division was almost entirely immobilized along the flank. The arrival of the LI Infantry Corps had to be awaited before the eastward thrust could be resumed. The main reason for this delay was that the boundary between Army Groups Center and South ran along the Vorskla River. The Army High Command, responsible for coordinating the operations of the two army groups, was too far removed, and its decisions, therefore, were too slow to keep abreast of the fast-moving events at the front. Finally, the Army High Command

ordered the LI Infantry Corps to relieve the 167th Infantry Division. The advance continued, and the Panzer Division Grossdeutschland entered Tomarovka. On its approach to the town, the division destroyed a considerable number of Russian tanks while many undamaged ones, which

ever, the Russians had miscalculated. Instead of leaving the village, the Tigers took up well-camouflaged positions and made full use of their longer range. Within a short time, they knocked out 16 T34s which were sitting in open terrain and, when the others turned about, the

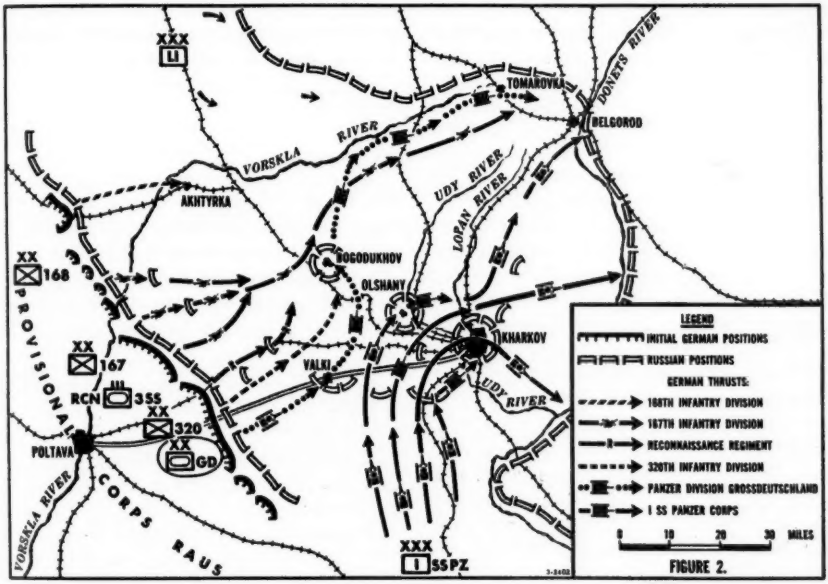

FIGURE 2.

had bogged down in the mud, were retrieved, and turned against the enemy.

It was in this action that Tiger (German, Mark VI) tanks engaged the Russian T34s for the first time; the results were more than gratifying for the Germans. For instance, two Tigers, acting as an armored point, destroyed a pack of T34s. Normally, the Russian tanks would stand in ambush at the hitherto safe distance of 1,350 yards and wait for the German tanks to expose themselves upon their exit from a village. They would then take the German tanks under fire while the Panthers (German, Mark V) were still outranged. Until now, these tactics had been foolproof. This time, how-

Tigers pursued the fleeing Russians and destroyed 18 more tanks. It was observed that the 88-mm armor-piercing shells had such a terrific impact that they ripped off the turrets of many T34s and hurled them several yards. The German soldiers' immediate reaction was to coin the phrase, "The T34 raises its hat whenever it meets a Tiger." The performance of the new German tanks was a great morale booster.

Farther to the south, Kharkov was captured by the 1st SS Panzer Division after 4 days of street fighting during which Tigers again played a decisive role. The 2d SS Panzer Division turned north, advanced on Belgorod, captured the city, and linked up with the Panzer Division Gross-

deutschland which had thrust beyond Tomarovka. The capture of the two cities secured the anchors of the new German line along the Donets River. Between these two points, two German divisions (320th and 167th Infantry Divisions) slowly struggled through the mud in their effort to reach the west bank of the river.

The Russian elements that were able to cross the Donets were badly mauled. German reconnaissance units, advancing beyond the river, met with little resistance. Even though the German attack divisions were fully capable of continuing their drive, the over-all situation and the prevailing mud made it inadvisable.

The objective of the frontal counterattack had been achieved. The breach, open for 4 months, was closed and the greatest Russian winter offensive was stopped. After suffering a defeat of gigantic proportions, the Germans once again held a continuous line anchored on the Donets River.

Discussion

Tactical doctrine represent a compilation of principles and policies, applicable to a subject, which have been developed through experience or by theory, represent the best available thought, and indicate and guide, but do not bind in practice.

Many factors influence the decision of any commander faced with the planning for and conduct of counterattacks against enemy penetrations. Primary among these are the mission of the command as a whole, the immediate objective of the counterattack itself, conditions of weather and terrain in the area of operations, and the strength, composition, disposition, and capabilities of the opposing forces.

Because of the variable nature of the many factors involved and their influence on each other, the possible combinations are practically limitless. Therefore, the commander must consider each new situation on the basis of conditions existing at that particular time and with due regard to his knowledge and appreciation of the particular tactical doctrine involved.

Blind adherence to one particular aspect of an accepted doctrine without careful evaluation of all possible considerations involved can result only in stereotyped procedures. The commander must be prepared to adjust his application of doctrine to the situation confronting him, or risk violation of the very doctrine he is attempting to follow.

Conclusions

1. Current doctrine governing counterattacks in general emphasizes the desirability of following an axis which strikes the flanks of an enemy penetration.

2. Proper application of doctrine does not preclude the consideration of a course of action which strikes the nose of an enemy penetration.

3. Conditions favoring a counterattack along an axis which strikes the nose of an enemy penetration include:

a. Terrain which affords favorable avenues of approach into the enemy position, cover and concealment for the concentration of counterattack forces and their movement to attack positions, and physical objectives whose seizure will facilitate or ensure the accomplishment of the mission involved.

b. Time and space factors which oppose the movement and deployment of forces necessary to counterattack the flanks of the enemy penetration.

c. Strong mobile reserves located so as to permit their expeditious employment. Armored divisions are particularly desirable for this role.

d. Adequate forces to hold the shoulders of the penetration and to prevent the enlargement of the enemy salient to a size which exceeds the capabilities of the counterattack force.

e. Enemy forces which have become so

overextended, disorganized, or exhausted that they can no longer maintain the momentum of their attack. Loss of mobility and absence of depth on the part of the enemy are particularly advantageous.

f. Local air superiority, even if only of temporary duration. In the absence of air superiority, the existence of weather conditions which serve to negate any enemy air superiority may suffice.

Should the counterattack *always* be launched against the *flanks* of the hostile salient? The writer believes not. Conditions similar to those outlined above may well present themselves in the future, and in this case it is believed that the preferred scheme of maneuver is to launch the full power of the counterattacking force against the *nose* of the enemy penetration.

I have been asked why military strength is the keynote of American policy today. The President has stated this reason as plainly as anyone. He said we do these things because "the world still walks in the shadow of another world war."

As long as we walk in the shadow, ground forces, naval forces, and air power must go with us hand in hand. I do not know for how long we shall have to continue to do this, but I do know that not to do so would be to invite aggression. And if we are weak and unable to defend ourselves and our friends, we should most surely suffer defeat.

Secretary of the Navy Dan A. Kimball

June 1952

We have initiated a positive policy, political, economic, and military, to combat communism. We have joined in the North Atlantic Treaty Organization with 13 other free nations in opposing the expansion of communism. This is the best collective security agreement the world has ever known. We could wish for no more staunch allies than our NATO partners. But our participation in NATO is only a part of our program for our own security.

General Omar N. Bradley

TACTICAL USE OF AIR POWER IN WORLD WAR II

The Army Experience

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The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

AIR power, as applied by the Army Air Forces in World War II, took two general forms: strategic and tactical. Strategic bombing was that aimed at the enemy's war-making potential—his industrial capacity. Tactical aviation, on the other hand, was that used against more immediate military objectives; its pattern was co-ordinated more directly with operations on the surface.

A memorandum prepared for the Chief of Staff in September 1940 listed five kinds of aviation support for ground troops. It made no effort to suggest rigid priorities nor to establish precise limitations. Concepts changed during the course of the war, but this statement remains a rather useful expression of the scope of tactical air power. It divided air support as follows:

1. Close, direct-support fire missions on the immediate front of ground forces.
2. Air defense of friendly ground forces and installations in the combat zone.
3. Air attack against targets in hostile rear areas.
4. Support of airborne forces.
5. Reconnaissance, observation, and liaison.

Differences of opinion among responsible military leaders on the relative merits of strategic and tactical air, and on how each should be used, persisted from the beginning to the end of the war. American doctrines on the tactical use of air power at the beginning of the war have been described by Lieutenant General E. R. Quesada, a tactical air force commander during the war, as "conducive to hysterical acceptance of the doctrines employed by the German Air Force."

The error in the use of the *Luftwaffe*, in General Quesada's view, was in violating the principle of mass and committing it to direct support of ground forces without first cutting off the immediate battle zone. Only in the later stages of the North African campaign and in the invasion of Italy was the Army's tactical air power beginning to be used "correctly." General Quesada concludes: "The final victory is, in itself, sufficient evidence that our tenets of tactical air power were superior to those of our adversaries."

This conclusion could lead to the questionable assumption that everything which the American did was right, or superior, while everything that the German or Japanese did was wrong, or inferior. The re-

sults of the German campaigns in the Low Countries and in France in 1940, compared with those in North Africa in 1943, make it rather obvious that something other than the use of tactical air power must have been at work to bring about such different outcomes. Perhaps more than in most other fields of current interest, persons in military affairs appeal to history for proof of the soundness of doctrine or the correctness of procedures. A great deal of care is necessary in interpreting evidence offered for far-reaching conclusions. Perhaps in no other field is it easier for one to find whatever he may be looking for.

Actually, on the eve of World War II, Army aviation seemed to be based upon a concept of a well-balanced force. Pooled into a General Headquarters Air Force, it included *striking forces*, for offensive operations far from their bases (strategic bombing); *defense forces; support forces*, to support directly the operations of ground troops; and *special forces*, for coastal defense and other special tasks.

Later statements of organization and doctrine reflected the growing autonomy of the Army's air arm. In June 1941, a reorganized Army Air Forces superseded the GHQ Air Force, and its leaders continued to press enthusiastically for the recognition of a principal role for air power in the waging of the war. Ground commanders became concerned as they saw more and more emphasis being placed upon training and equipment for strategic bombing and thus relatively less effort being made to develop tactical support aviation. Strategically, the Army Air Forces seemed bent upon pursuing its ambitious bomber offensive against Germany to prove its ability to force a decision against Germany from the air. Tactically, it seemed determined to concentrate air units outside the control of ground commanders, and as much as possible to avoid close support of ground units.

These trends of the Air Forces toward independence of control and operation reached a climax in mid-1943 with the publication of Field Manual 100-20, *Command and Employment of Air Power*. This small pamphlet of 14 pages, abandoning the sedate style generally associated with such publications, screamed its doctrines in the first three paragraphs of capital letters:

LAND POWER AND AIR POWER ARE CO-EQUAL AND INTERDEPENDENT FORCES; NEITHER IS AN AUXILIARY OF THE OTHER.

THE GAINING OF AIR SUPERIORITY IS THE FIRST REQUIREMENT FOR THE SUCCESS OF ANY MAJOR LAND OPERATION. . . . LAND FORCES OPERATING WITHOUT AIR SUPERIORITY MUST TAKE SUCH EXTENSIVE SECURITY MEASURES AGAINST HOSTILE AIR ATTACK THAT THEIR MOBILITY AND ABILITY TO DEFEAT THE ENEMY LAND FORCES ARE GREATLY REDUCED. THEREFORE, AIR FORCES MUST BE EMPLOYED PRIMARILY AGAINST THE ENEMY'S AIR FORCES UNTIL AIR SUPERIORITY IS OBTAINED.

THE INHERENT FLEXIBILITY OF AIR POWER IS ITS GREATEST ASSET. THIS FLEXIBILITY MAKES IT POSSIBLE TO EMPLOY THE WHOLE WEIGHT OF THE AVAILABLE AIR POWER AGAINST SELECTED AREAS IN TURN. . . . CONTROL OF AVAILABLE AIR POWER MUST BE CENTRALIZED AND COMMAND MUST BE EXERCISED THROUGH THE AIR FORCE COMMANDER. . . . THE SUPERIOR COMMANDER WILL NOT ATTACH ARMY AIR FORCES TO UNITS OF THE GROUND FORCES UNDER HIS COMMAND EXCEPT WHEN SUCH GROUND FORCE UNITS ARE OPERATING INDEPENDENTLY OR ARE ISOLATED BY DISTANCE OR LACK OF COMMUNICATION.

The Army Air Forces, in World War II, seemed bent upon forcing a decision through strategic bombing. Tactically, it seemed determined to minimize close support and to annul control by ground commanders

In theaters of operations, air forces would be divided into a strategic air force and a tactical air force. One might be used to reinforce the other when necessary. Made up of light and medium bombers, fighters, and reconnaissance planes, the tactical air force, according to the field manual, would be assigned a mission consisting of three phases listed according to priority. *First* priority would be "To gain the necessary degree of *air superiority*. . . . The primary aim of the tactical air force is to obtain and maintain air superiority in the theater. . . . Air superiority is best obtained by the attack on hostile airdromes, the destruction of aircraft at rest, and by fighter action in the air. This is much more effective than any attempt to furnish an umbrella of fighter aviation over our own troops." *Second* priority was *isolation of the battlefield*—"The disruption of hostile lines of communication . . ., the destruction of supply dumps, installations, and the attack on hostile troop concentrations in rear areas will cause the enemy great damage and may decide the battle." *Third* priority was given to *combined actions with ground forces*—"The destruction of selected objectives in the battle area in furtherance of the combined air-ground effort. . . . Massed air action on the immediate front will pave the way for an advance. However, in the zone of contact, missions against hostile units are most difficult to control, are most expensive, and are, in general, least effective. . . . Only at critical times are contact zone missions profitable." The very term "air support" was deleted from the official vocabulary.

Based largely on General Montgomery's *Notes on High Command in War*, Field Manual 100-20 reflected General Montgomery's statement of principles, but it did not portray accurately the application of those principles in operations of the British Eighth Army and Royal Air Force units in the Western Desert. It was published without the approval or agreement of the Army Ground Forces, and it tended to confirm ground forces officers in their view that the air staff was indifferent to co-operation of air with ground troops.

Doctrines Applied: Air Superiority

The ultimate success of the Air Forces in achieving air superiority—not just locally, but throughout the theaters where they operated—cannot be questioned. The preinvasion tactical bombing of Sicily drove out about half the German and Italian planes based there, and air superiority was practically complete before the invasion began. During 1943 and early 1944, the Japanese air force in New Guinea was being systematically and completely destroyed. A Japanese staff officer estimated a loss of 800 planes there—about half being destroyed on the ground, about 30 percent lost in aerial combat, and about 20 percent attributed to operational losses. Troops who went ashore in Normandy as well as those invading Luzon could be assured that any concentrations of aircraft which might appear overhead would be friendly. Control of the air permitted the execution of plans and the extension of lines of communication which otherwise hardly would have been possible. Moreover, it permitted close air support of ground troops far beyond anything envisaged, at least by the air staff, in the earlier months of the war.

Isolating the Battlefield

Hardly less impressive was the Air Force's record in isolating the battlefield to seal off reinforcements and supplies from enemy troops facing American ground forces. Landing on a hostile shore traditionally has been regarded as among the most difficult of military operations, yet in the Southwest Pacific area alone allied forces were able to make nearly 80 separate landings with almost negligible losses. No enemy counterattack ever was able to drive a major American amphibious landing back into the sea. The Jap-

anese defended Cape Gloucester, New Britain, over a wide area; on Corregidor they occupied some of the best prepared defenses in the Pacific. Ground losses were relatively light in both. A number of factors contributed to this result—a paratroop drop on Corregidor, naval gun support, geography, the Japanese defensive attitude, but certainly the preassault air attacks and their isolation of the battlefield helped make those achievements possible.

Planes of the Fifth Air Force which struck at roads, bridges, and tunnels on southwest Luzon before the American assault over the Lingayen Gulf created serious difficulties for General Yamashita when he sought to shift his defense forces. That interdiction of lines of communication was another outstanding example of planned isolation of a beachhead area.

By the time allied troops hit the beaches of Normandy, only two bridges over the Seine below Paris remained intact. By 20 July 1944, it was reported that there were no rail bridges left standing nor any rail line uninterrupted in the area bounded by the Loire River, the Seine River, and the Paris-Orleans gap.

It took the German 275th Infantry Division a week to travel the 150 miles from Fougeres to the front. Two panzer divisions, shifting from the east, traveled from Poland to France in no more time than it took them to move from eastern France to Normandy. Men of a German Air Force unit left The Hague by train on 18 June and, after a circuitous tour through Holland, Belgium, the Rhineland, and eastern France, were unable to reach the battle area before 3 July.

Some of the lessons for tactical air power which the experiences in northern France seemed to indicate were the value of widespread rail cutting and of armed reconnaissance (seeking out and attacking all targets that can be found in enemy areas), the temporary effect of the bombing of railway marshalling yards, and the relative ineffectiveness of bombing towns to interrupt enemy road movements.

Tactical air support for the Normandy invasion had been on a grand scale. On D-day alone, allied tactical air forces flew 5,276 sorties, while planes of the strategic air forces flew another 5,309 sorties on tactical missions. During the first week of the campaign, the tactical forces flew some 35,000 sorties, and in the days which followed they continued to fly, when weather was good, as many as 4,000 sorties a day.

When the German counteroffensive broke through the Ardennes in December 1944, all available air power was called upon to help stop the drive. Specifically, its major task again was to isolate the battle area. In order of priority, air attacks were aimed at:

1. Railway bridges on lines leading toward the battle area.
2. Concentrations of supplies in rail yards within the line of interdiction.
3. All communication centers and junctions.
4. A continuous harassment by fighters and fighter bombers of all rail and road movement.

At first the air attacks were concentrated in the area Köln—Koblenz—Trier, and later were extended southward to the area Koblenz—Kaiserslautern—Saarbrücken—Trier. It was estimated that traffic practically was brought to a standstill in the first area, and was seriously dislocated in the second. Comparing the results obtained in this relatively small area with those of the widespread, heavy attacks which had been carried out farther east, the Working Committee of the Combined Strategic Target Committee recommended that these concentrated attacks be repeated on other selected areas. The committee estimated that continued heavy attacks on transportation in larger areas could not produce strategic effects on the German war economy in less than 8 months or a year. Here, after 2 years of

intensive strategic bombing, the *Wehrmacht* had been able to assemble troops, equip them, and move them to mount a major counteroffensive in the west. Tactical air power, directed against rail lines serving the battle area instead of deep within Germany, against the supply dumps and communications instead of the factories, and against military forces instead of cities, had been able to help blunt that counteroffensive within a few weeks. Perhaps he was speaking with some exaggeration, but Von Rundstedt was reported to have said that but for the savage allied strafing attacks the German counteroffensive would have driven on to Paris.

One difficulty in the attacks against transportation was the tendency to *overbomb* certain areas. In December 1944, allied air forces dropped 17,113 tons of bombs on the Köln area, when, according to an estimate of the United States Strategic Bombing Survey, one-fiftieth of that tonnage would have been enough to do the job. In other words, about 16,770 tons of bombs were virtually wasted on Köln alone in December 1944.

Late in February 1945, air forces began a systematic isolation of the industrial Ruhr valley. The area was to be completely isolated by cutting 18 key bridges or viaducts on every railway in a wide arc from Bremen in the north, down the Weser River, through Bielefield, and to Koblenz in the south. Heavy bombers were assigned to six of the major targets, including Bielefield, while mediums and fighter bombers were to take the others. Between this line and the Ruhr, every rail yard, line, and center of any importance was to be attacked heavily and repeatedly. Finally, fighter bombers were to create local stoppages over wide areas by attacking trains and cutting lines. Here was a case where strategic and tactical objectives overlapped. The strategic objective was to prevent raw materials from moving into the Ruhr war industries and to keep finished materials and coal from moving out. The tactical objective was to prevent the reinforcement and supply of troops defending the area. By 24 March, when the northern group of armies attacked across the Rhine, the isolation was practically complete. Of the 18 bridges and viaducts selected on the outer arc, 16 had been cut; 20 of the 25 important railway centers and marshalling yards on the periphery of the valley had been heavily damaged, and tactical air forces claimed the destruction of 113 bridges, 4,000 locomotives, 28,000 cars, and 5,000 rail cuts.

It was found that intensive fighter bomber activities against bridges, small stations, and main line trackage outside of stations was much more effective in paralyzing German rail transportation than were the attacks of heavy bombers against marshalling yards. Line cutting was the only effective way of reducing movements of troops and supplies in complete trains.

Yet isolation of the battlefield, with all its remarkable success, could not paralyze completely the movements of enemy forces nor the movement of supplies to them. As General Arnold wrote:

> The Air Force could not completely dry up the flow of essential supplies to the Germans in Italy. They lived off the country, regardless of the attitude of the inhabitants. The German's frugality and will power—like the Japanese emerging stolidly from island caves, with their thin bags of rice or dried fish "field rations," after napalm flames had been poured for weeks into their hideouts—made it possible for him to maintain himself in apparently impossible circumstances. While we isolated the battlefield, in so far as supplies and reinforcements were concerned, we did not always force the Germans to surrender.
>
> When we were operating against the eight German divisions still south of Rome, . . . we cut practically every railroad and road south of the Pisa-Rimini line. We even attacked important railroad centers north of the Apennines. We were destroying motor transports on the road at the rate of 20 to 30 a day, which represented a monthly loss of 50 percent of all motor transportation available to the Germans in Italy. Yet, somehow or other, those eight divisions held out and fought—fought well—for a remarkably long time.

Apparently something more was needed than isolation of the battlefield. The next step was close support for ground troops.

Close Support

The problem of the tactical use of air power which gave the greatest difficulty, especially early in the war, was that of the close support of ground troops (or *co-operation* as the Air Forces preferred to call it). Sometimes the term *close support* may be used to refer to closeness in space, that is, to the air attack of targets close to the lines or columns of troops on the ground. Sometimes this term refers more to closeness of command, communication, and co-operation. Usually it includes both.

Experiences in North Africa left much to be desired as far as American ground commanders were concerned. General Brereton, who commanded American elements in the Western Desert Air Force, on the other hand, was highly impressed by that force's co-operation with the British Eighth Army during the summer of 1942. There the air force's task was to defeat the enemy air forces and maintain air supremacy. "The next and equally important task," in the words of General Brereton, was "to assist in the ground operation by destroying enemy troops, artillery, transport, and supply."

"Fighter bomber technique was not taught in the states," General Brereton noted in his diary. "Indeed, there existed a school of thought prior to our entry into the war which considered such employment uneconomical and ineffective." American ground commanders arriving in northwest Africa in the months following considered that school of thought still prevalent in the Air Corps.

In December 1942, the commander of a combat command of the 1st Armored Division wrote to General Marshall as follows:

> My regiment has fought well, has had rather severe losses, but can go on. I have talked with all ranks possible and am sure that men cannot stand the mental and physical strain of constant aerial bombings without feeling that all possible is being done to beat the enemy air effort. News of bombed cities or ships or ports is not the answer they expect. They know what they see and at present there is little of our air to be seen.

Ground commanders were not impressed by the dogmatic statements of Air Forces staff officers on the ineffectiveness of close air support. They felt sure that close support could be highly effective. They felt sure because they saw the effect of German air attacks upon themselves. As a result of his observations in North Africa, John J. McCloy, the Assistant Secretary of War, concluded:

> It is my firm belief that the Air Forces are not interested in this type of work, think it is unsound, and are very much concerned lest it result in control of air units by ground forces. Their interest, enthusiasm, and energy is directed to different fields.

The perfection of air-ground co-operation depended not upon statements of doctrine in Washington, but upon the practical application of teamwork in combat.

Tactical Air in the Pacific

On Guadalcanal, air and ground officers worked together to plan and carry out close-support missions. When artillery could not reach defiladed Japanese positions, dive bombers would be called in to do the job. During an attack for the ridge known as Galloping Horse in January 1943, air support came to the aid of units meeting difficult resistance. Soon after the attack of one battalion bogged down, the regimental commander sent the air-support commander to see what could be done. After a talk with the infantry battalion commander, the air officer agreed to bomb the objective hill; an artillery smoke shell was to mark the target and to be the signal to bomb. When the airplanes arrived the battalion commander called for the artillery shell; to his dismay it fell on the wrong hill—near his own observation post. Quickly, he ordered his 81-mm mortars to mark the correct target. Not misled by the short round, the pilots flew in

to bomb the correct positions, and shortly thereafter it was in the hands of the infantry.

Plans had been made for close air support of ground operations on New Georgia, but soon it became apparent that the dense jungle growth made normal procedures impracticable. Neither air liaison officers on the ground nor observers in spotter aircraft overhead could identify enemy positions. A solution to the difficulty might have been found by adapting artillery fire adjustment methods and talking the pilots onto the targets, but the lack of good maps and the lack of reliable radio communication ruled that out. Nevertheless, the heaviest air bombardment in the South Pacific up to that time supported the final attack on Munda air strip on 25 July 1943; yet the Japanese held out another 11 days. Results of air support in New Georgia had been rather disappointing. This was due partly to the ability of the Japanese defenses to withstand the attacks. But it may also have been due in part to the lack of enough co-operation. The operations officer of the strike command felt that the ground commander did not appreciate the usefulness of air power, and when requests did come the targets were usually 1,000 to 2,000 yards in front of the lines. Here, perhaps, it was the ground commander who was taking too seriously the doctrine laid down in Field Manual 100-20!

New Guinea

As elsewhere, the question of liaison and communication limited close air support during the Buna campaign in New Guinea. The procedure of sending requests for air strikes back through ordinary command channels—through regiment, division, corps, and army—was slow and cumbersome. Closer co-ordination could be had when pilots were sent to ground units to act as observers and ground officers were attached to the air headquarters. As soon as mobile very high frequency radios could be had, support air parties came into being. Now air observers could send their requests by voice radio (monitored by corps and army) directly to the air task force headquarters, and then could talk to the pilots to direct them to the targets.

For ground-support operations in the Pacific, the Fifth Air Force found the fighter bomber and the light attack bomber to be the most useful instrument. The fighter bomber could strafe, skip bomb, or dive bomb. The mountainous country of New Guinea and the Philippines often made dive bombing tactics necessary and, because of its accuracy, this procedure ordinarily was used against pinpoint targets close to ground troops. In some cases, effective attacks were made within 100 yards of friendly ground troops. Even more destructive were the attack bombers when they could come in low in a surprise attack to drop parachute bombs and to strafe with machine guns and cannon. The *A-20* was used extensively at first, but the ultimate for low altitude work probably was the *A-26 Invader* which appeared late in the war. The *A-26* was said to be as fast as a fighter at its altitude, it carried more bombs than any medium bomber, and no other plane equalled its strafing power. In its bays, it could carry 16 bombs—up to 6,000 pounds—or it could carry 2 torpedoes. On its wing racks, it could carry four 500-pound bombs or chemical tanks, or it could carry 14 rockets there. In addition to six or eight .50-caliber machine guns in its wings, it could carry any of a number of combinations of guns—from six .50-caliber machine guns to two machine guns and a 75-mm cannon—in its nose. One of the more fearsome, and more effective, developments was the napalm, or jellied gasoline, fire bomb. Weeks of probing by ground troops in the Ipo Dam area, west of Manila, had failed to uncover any weak spots in a series of five Japanese strongholds in an area about 1 mile square. Five

fighter groups then flew 646 sorties to drop 200,000 gallons of napalm. Afterward, the infantry was able to move into the Japanese strong points standing up.

This new air weapon was also a major factor in reducing the Japanese defense works—in pillboxes and caves—on the Marianas. The campaign in the Marianas was the first in the Central Pacific in which land based planes were used in direct support of ground troops, and their attacks on Saipan, Tinian, and Guam appeared to be of considerable value to the operations on the ground.

Air-ground co-operation had not been perfected in the Pacific, but it had been made effective. In a slow-moving ground situation, the demand for speed of communications and for speed in response to requests for air support was not as urgent as in other situations. The scarcity of suitable targets for strategic bombing reduced another possible point of contention. Moreover, the objectives of ground operations were of direct interest to the air forces in obtaining more advanced air bases. For close-in co-operation, reports from the South and Central Pacific suggested that Navy and Marine aviation was working well with Army ground units and it appeared that their close-in co-operation with ground troops had developed somewhat beyond that achieved in those areas by Army aviation. But in spite of the statement of Field Manual 100-20 that *only at critical times are contact zone missions profitable*, and although some advocates of independent air power questioned the usefulness of close air support for ground troops, that very use of air power often was practically indispensable in the Pacific. The very nature of important objectives, the dispositions of Japanese defenses, and the limitations of artillery and naval gunfire often demanded air strikes as the only means for forcing an early decision.

The Mediterranean

Meanwhile, further experience in the Mediterranean had been pointing up weaknesses in close support as well as some of its possibilities. In Sicily, planes sometimes bombed and strafed friendly troops, and ground troops too frequently fired on friendly aircraft. At other times, pilots had to withhold fire against concentrations of enemy troops because of their lack of information on the exact location of friendly troops. Yet Kesselring, the German commander, attributed the allied success there "in the first place" to the air forces—a judgment which possibly was colored by a hope of justifying his own defeat. In the words of the official Air Force history the most important development of air operations in Sicily was not that a plane sometimes bombed friendly troops, nor that troops sometimes fired on friendly planes, most important was ". . . the fact that tactical air missions were controlled by the air arm and not by ground commanders and were under a centralized operational control which kept air power from being frittered away piecemeal and permitted it to use its greatest qualities of mobility, flexibility, and concentration."

The pattern of allied air support for the British invasion of the Italian mainland followed what was coming to be regarded as more or less "normal." Until D minus 7, air attacks were to be directed against enemy airfields in order to obtain air superiority. From D minus 6 to D minus 1, the air assault would be aimed at isolating the assault areas, interdicting into the area, and reducing defenses. On D-day, all planes of the North African Tactical Air Force would be committed to direct-support missions. From D plus 1 to D plus 3, 40 percent of the planes would be in direct support, while the other 60 percent would strike at airfields and communications. Thereafter, 20 percent would remain for direct support.

But again, American ground commanders in Tunisia and Sicily never had been satisfied with their air support. They generally hoped that the air units needed for support in critical operations could be put under control of division commanders, but Field Manual 100-20 forbade that. Most criticism related to poor communications and the slowness of response to requests for air support. After the landings at Salerno the United States Fifth Army and the XII Air Support Command worked out arrangements for closer cooperation. The two headquarters were to be located near each other habitually, and ground liaison officers were to assist in briefing the pilots. Fifth Army would receive requests from lower units and coordinate them. Requests would go from the divisions directly to army by radio, while corps monitored. Scheduled missions would be planned together each evening for the following day. Additional aircraft then would stand by for special *on call* missions. That improvement over the situation in Tunisia and Sicily had been obtained was evident when it could be reported in November that no missions were being refused except on technical grounds—that no mission had been refused as being directed against an unprofitable target. However, these measures were strictly limited, for 85 percent of the missions continued to be flown at the direction of higher air headquarters, and only 15 percent in response to plans worked out with the Fifth Army. Communication still was too slow, but it was considerably better than it had been. More important was the spirit of co-operation which developed between air and ground officers. This system was based principally upon the experience of the British Eighth Army and the Royal Air Force units supporting it. Curiously, then, the doctrines of Field Manual 100-20, which had served to drive American air and ground forces farther apart, and now the devices which were operating to bring them into closer cooperation both were based upon the same British experience.

Generally speaking, tactical air operations in close support of ground troops may be said to fall into three categories. In the first would be those large-scale operations planned by higher headquarters to concentrate massive power at a decisive point with the intent of blasting a hole in the enemy's defenses with a single tremendous blow. These would include such operations as the bombing of Cassino, of Cherbourg, and the strike near St. Lô before the break-through. A second category would be special missions extending over some time for an army, such as the protection of the Third Army's right flank by the XIX Tactical Air Command. The third category would include specific missions, scheduled or on call, flown at the request of ground commanders.

After the first battle for Cassino, early in February 1944, had ended in failure, the allied command called upon bombers to destroy the abbey on dominating Monastery Hill and to repeat their bombing of the town. But the second ground assault which followed found German resistance just as determined as ever. A third attempt was planned for 15 March with the benefit of an all-out aerial bombardment. The infantry drew back 5 miles; then between 0830 and 1200 medium and heavy bombers dropped some 1,400 tons of bombs intended for an area about 1 mile square. However, when the infantry got back to the town about 1300, once more they found the Germans still there. About the only result seemed to be the creation of great piles of rubble which served as cover for the defenders and as obstacles for the attackers. Not all the bombs dropped on the target area. A number fell among friendly troops. The caravan headquarters of the British Eighth Army's commander, 3 miles away, was demolished. A

formation of heavy bombers mistook Venafro for Cassino, 12 miles distant, and dropped its load on the French corps headquarters there. The ground battle continued for 8 days, and again had to be broken off. Not until 17 May did allied troops occupy Cassino.

Normandy

The first large-scale bombing in support of ground troops in Normandy was at Cherbourg. There, on 22 June 1944, 10 squadrons from the Second Tactical Air Force (RAF) and 562 fighter bombers and 387 light and medium bombers of the United States Ninth Air Force bombed and strafed positions in front of the United States 9th and 79th Divisions. Again, results were disappointing, and again, in spite of a bomb line 1,200 yards short of the target, there were casualties among friendly troops. German casualties had not been heavy, and no immediate break-through resulted.

Heavy bombers of the Eighth Air Force were called upon to join with fighter bombers and medium and light bombers of the Ninth Air Force for an all-out carpet bombing in front of American troops poised for the break-through west of St. Lô in July 1944. After a false start on 24 July—during which some 36 heavy bombers dropped their bombs about 3,000 yards short—had been called off because of bad weather after bombing already had started, the full attack came the next day. Front-line troops withdrew 1,200 yards to the north of the target area and, at 0940, fighter bombers began striking a 300-yard strip along the St. Lô-Periers road. Then came the 1,500 heavy bombers to drop about 3,000 tons of bombs on a target area approximately 1 mile by 5 miles. More fighter bombers and medium bombers followed. Flying east to west, parallel to the front, the fighter bombers ran little risk of bombing short. The heavies, however, flew in over the friendly troops, and a number of them dropped their bombs far short. Apparently the drift of smoke laid down to mark the bomb line caused some confusion, and some bombardiers mistook a parallel road for the one which was supposed to be their guide for the north limit of the target. Unfortunately, the short bombs caused serious casualties in some of the forward infantry battalions, in one of the tank battalions, and some artillery installations received direct hits. Reserve battalions replaced those hardest hit, and after a delay of an hour and a half, those units moved forward in the ground attack. As at Caen a week earlier, where a similar carpet bombing had preceded a British attack—and where also friendly troops had been hit by bombs falling short—the effects of the bombing on the German defenders seemed to be only temporary, and casualties were not heavy. Precisely to what extent the massive carpet bombing contributed to the break-out which followed is impossible to say.

American air commanders in Europe considered it unwise to use heavy bombers in close-support missions; General Spaatz, particularly, objected to the diversion of heavy bombers from their strategic bombing offensive. It was, however, an example of the exploitation of the *inherent flexibility* of air power, and of faithful fulfillment of the principle of mass.

The value of any of the major attempts at massive carpet bombing may be seriously questioned. Certainly it is difficult to justify, in terms of immediate results, the tremendous expenditure of resources in the tonnage of bombs dropped at Cassino, at Caen, or at St. Lô. Perhaps this simply was the logical extreme of the principles of mass, flexibility, and concentration. *Flexibility enables air power to be switched quickly from one objective to another in a theater of operations,* Field Manual 100-20 had stated. Perhaps the same resources decentralized to lower units, and operating in close communication with ground elements, would have been considerably more effective.

Air-ground co-operation reached new heights of achievement as the armies sped across France during the summer of 1944. Most spectacular was the co-operation with tanks to build a team for real *blitzkrieg* operations. As a general rule, each advancing armored column of the First Army had the co-operation of four fighter bombers flying cover for it. The planes could report enemy movements and could attack enemy formations wherever they appeared. When the alert planes found an air target too big, the flight leader could call for reinforcements by direct radio to the air operations officer. Tank battalion commanders and air officers riding in a leading tank could communicate with the pilots overhead as well as with air support party officers at division and corps headquarters. Similar arrangements added impetus to the Third Army's spectacular drive. A fighter bomber group of the XIX Tactical Air Command worked directly with each armored division. The air command continued its attacks to seal off the battlefield, and then it received the task of protecting the long, exposed right flank of the Third Army along the Loire River by breaking up any enemy concentrations which appeared in that area.

It seemed that effective air-ground co-operation and the application of close tactical support was being achieved in spite of the field service regulations.

Night Attacks

Far-reaching improvements in tactical air power never did mean perfection to the point of completely denying major enemy troop movements and the transportation of equipment and supplies. Always, certain loopholes were apparent; and the greatest of these was movement by night. To drive the enemy to movement at night might have been to inconvenience him, and even to put heavy burdens on his organization and facilities, but it did not stop him. In a letter to General Marshall, 19 February 1944, General Eisenhower wrote: "For the past 5 days there has been good weather in Italy and our reports show an average of 1,000 sorties per day. Yet with only two main roads and a railway on which to concentrate, our reports show a steady stream of traffic by night to the south and southeast of Rome."

American intelligence officers on Okinawa found it difficult to interpret Japanese troop movements south of Shuri, partly because a large proportion of the troops were moving at night.

The question of night intruder missions received some attention in a study prepared by the Ninth Air Force. That study, unfortunately, remains inaccessible under security classification. Ironically, training doctrine for American ground forces had taught the importance of moving at night in order to avoid air attack, but in Europe that was the very time when the German Air Force was most dangerous. Thus soldiers of the 35th Division rested and played baseball one sunny afternoon near the end of the Normandy campaign in order to await nightfall for a movement by motor truck. Friendly planes commanded the skies throughout the day. But when the truck convoy was on the road that night German raiders appeared, as many of the soldiers had learned to expect, and they caused casualties, damage, and delay in the division.

It was a curious thing how similarities in sayings and nicknames spread among theaters of operations thousands of miles apart. On Guadalcanal, men harassed nightly by single or small groups of Japanese air raiders dubbed the intruders "Washing Machine Charlie." Japanese night raiders on New Georgia had similar effect. In Normandy, single or small groups of German raiders were so regular in their calls—about 2300 each evening—that they were called "Bed Check Charlie," and ground soldiers wondered why night fighters were not stopping them, and they wondered if night raiders were attacking German columns every night. Likewise,

Japanese night intruders on Saipan received the appellation, "Bed Check Charlie." Given the great size of the American tactical air forces, their perfection of night intruder technique might have gone far toward making their total effect much more decisive.

A similar problem was that of overcoming the obstacles of bad weather. With the benefit of the poor visibility prevailing in Europe in mid-December 1944, the German army in the Ardennes was able to prove the possibility of launching a major offensive without the benefit of air superiority, statements of Field Manual 100-20 to the contrary notwithstanding.

Air Defense

Fulfillment of the air defense responsibilities of tactical aviation depended primarily upon the successful execution of its first priority missions, that is, the maintenance of general air superiority. Offense was considered to be the best defense against enemy bombardment. Air forces found it easier to attack a surface target than to defend it from attack, and it soon became evident that defensive measures alone would not ordinarily stop a strong and determined air attack. Therefore, the practice was to seek out and destroy enemy aircraft on the ground and to render unusable the enemy's air bases. Interceptor aircraft still was needed, nevertheless, for direct protection against an enemy pursuing similar tactics or striking at ground troops. This problem of defense introduced the question of the role which antiaircraft artillery should play. Success of German air support during 1939 and 1940 gave impetus to an unparalleled expansion in American antiaircraft artillery. Between 1941 and 1943, while the infantry was expanding sixfold, the antiaircraft artillery was expanding by 1,750 percent.

Difficulties in co-ordination recommended that all antiaircraft guns, searchlights, and barrage balloons be attached to the interceptor commands of the Air Forces for the air defense of the United States. This policy was accepted in 1941, and General McNair's recommendation that the same principle be extended to combat zones received official sanction later, though it was not carried out. Combat divisions retained control of attached antiaircraft units for their own defense. The doctrine outlined in Field Manual 100-20 in 1943 recognized this distinction—that antiaircraft units assigned to the defense of an area should be under the responsible air force commander, but those attached to ground combat units should remain under the ground commander.

A suggestion by the War Department G3 in February 1943 that the Antiaircraft Command be transferred from Army Ground Forces to Army Air Forces had the support of G1 and G4 as well as of General Arnold, commander of the Army Air Forces. But General McNair, Ground Forces commander, opposed the move, though 2 years earlier he had urged air force command over antiaircraft units during operations, and no change in jurisdiction ever came about.

Tactical Reconnaissance

The principal use of military aviation originally had been observation for ground armies and denying observation to the enemy. From the point of view of Army Ground Forces, this continued to be an important function during World War II. This work included visual observation, aerial photography, and aerial adjustment of artillery fire.

Again, ground commanders were disappointed as to the effectiveness of air support. The reorganization of Air Forces reconnaissance units in 1943 indicated a primary interest in photography and observation toward air objectives rather than in missions of more direct interest to ground forces. Failures, as in any military operation, sometimes were the result of vexing oversights in seemingly minor but

obvious details. In the first week of February 1943, American commanders on Guadalcanal were anxious to know whether Japanese troops were being reinforced preparatory to counterattack or whether they were being evacuated. Aerial photographs would have given the answer, but they could not be had. The Army Air Forces reconnaissance squadron which had relieved the 2d Marine Air Wing of reconnaissance duties had arrived with good *P-38* planes and good cameras; but it had neither filters for the cameras nor paper on which to print its pictures.

More often, the lack of photo coverage in the early years of the war seemed due to the low priority of tactical missions for ground operations. An Army Ground Force observer reported from North Africa that though no photomaps and very few photographs had been provided for ground operations up to 28 April 1943, "hundreds of photographs of bombing actions" were found in the files of air headquarters, and "many excellent photographs" of successful bomb strikes were posted on their walls.

This situation improved markedly, however, in the campaigns which followed. Photo coverage, both for photomaps and for pinpoint photographs, generally was sufficient through the campaigns in Italy and in the European theater, but criticism remained of the lack of speed in filling requests. Some of the delays in Italy during September 1943 were due to the distance from air force headquarters in North Africa, though on one occasion there a division requested some pinpoint photographs and within 6 hours the pictures had been taken, developed, interpreted, and the target fired on by artillery. Other delays apparently were due to a lack of immediate attention. After a tour in the European theater, the Army Ground Forces air officer reported that, in the photographic laboratories, "Air Forces photographs (for example, those used to assess bomb damage to distant targets) in every case have priority over air photos taken for ground units."

Of even more direct concern was the matter of air observation for the adjustment of artillery fire. Here, a solution was found in the assignment of light liaison airplanes to field artillery units. But it was a solution which met determined opposition from the Army Air Forces from beginning to end. Based upon what appeared to be more feeling for branch prestige than for demonstrated results, the Army Air Forces made repeated efforts to capture control of artillery liaison aviation even after it had been well established, and air officers looked with sharp disapproval on any attempts to extend the benefits of light observation planes for infantry and armor. This extension was successfully forestalled until mid-1945. The Air Forces seemed to adhere to policies which would assure control over everything which could fly, regardless of mission. In January 1944, General Arnold signed a memorandum for the Chief of Staff which attacked organic field artillery air observations as "overextended, wasteful of resources, and unsound in principle."

General McNair, not sold on the idea himself at first, replied as follows:

> The basic memorandum contains a number of debatable statements. However, the main issue really is satisfactory air observation for field artillery. The present system is outstandingly successful—one of the remarkable developments in connection with the effective artillery support which is being given the infantry in all theaters. On the other hand, field artillery air observation by the air forces has been unsatisfactory since the advent of military aviation. There is abundant reason to doubt that the results would be otherwise if this task were returned to the air forces now. Especially would it be hazardous to make so radical a change at this particular time. The cost of liaison aviation, regardless of who mans it, is microscopically small as compared with the cost of the air forces as a whole, and is hardly a material factor in the discussion.

Even such an enthusiast for independent air power as De Seversky had recognized

the desirability of retention of certain transport and local reconnaissance aviation in the Army organically.

How effective artillery liaison planes could be was demonstrated in the campaigns in Europe in 1944 and 1945. Ground soldiers came to attach an almost phenomenal importance to the little spotter planes, and insisted on having them aloft almost continuously.

A German soldier wrote in a letter in December 1944:

> The artillery observers destroy our positions. Here our artillery is shooting a little more, but the answer always comes, and in much greater quantities. We all would be very happy to see a few of our fighter planes which would bring an end to the *stueren* which we call the artillery observers. Without any interference these dogs fly around all day *in our sky*. Against that one can only hide like a little mouse and do the rest at night.

Here was an eloquent expression of the ground soldier's demand for local air coverage as well as testimony to the effectiveness of artillery light observation planes.

Airborne Operations

One of the more spectacular uses of aviation which appeared in World War II was in the mounting of airborne operations. Actually, General William Mitchell had planned a paratroop drop against Metz in World War I, but the Armistice had made that proposed operation unnecessary, and it was left for the Germans to introduce this technique in actual combat in 1940. The American airborne effort took new impetus after the German airborne seizure of Crete, but difficulties arising from the competition of other programs and differences among the agencies concerned limited the rapidity and the extent of its development. A shortage of transport aircraft for the training of parachute troops appeared early in the program and persisted almost continuously. Demands for the strategic bombing offensive against Germany limited the resources which could be put into the troop carrier aircraft necessary for airborne training and operations. Moreover, many troop carrier units which were activated and trained were diverted to other kinds of missions, such as carrying cargo for striking air units in the Pacific and in North Africa, and carrying supplies for ground troops, in greater or lesser amounts in all theaters.

The first American airborne operations in North Africa and in Sicily were disappointing. Scattered drops and lack of coordination indicated a need for more training than had been available. Paratroopers dropped as far apart as 50 and 60 miles in Sicily, and few hit the drop zones which had been selected. Yet, the airborne phase contributed materially to the success of that invasion. The most unfortunate incident of that operation was the following night when friendly ground and naval units fired on transport planes bringing in airborne reinforcements. A good deal of disillusion followed the Sicilian venture. General Eisenhower wrote that he did not believe in the airborne division, but felt that the difficulties of providing air transport and of maintaining control on the ground made it desirable to limit airborne units to the size of regimental combat teams.

Actually, airborne operations grew in size and scope. For the Normandy invasion, General Marshall and General Arnold tried to sell General Eisenhower and his lieutenants on establishing an *airhead* inside France. That is, airborne troops would spearhead an invasion to seize airfields and key points in north-central France; succeeding waves then would fly in infantry divisions (stripped of heavy equipment) to build up an attacking force. The main effort, in other words, would be a large-scale airborne invasion far inland instead of a sea-borne assault against the beaches of Normandy. Much to the disappointment of General Marshall and General Arnold, Eisenhower turned down the

proposal as being too risky. In the attack as carried out, airborne troops, as in Sicily, were widely scattered, but they accomplished their assigned tasks.

The missions of troop carrier aviation were defined broadly as follows:

1. The primary mission of troop carrier units is to provide air transportation for airborne forces into combat; and to resupply such forces until they are withdrawn or can be supplied by other means.
2. The secondary mission of troop carrier units within the combat theater is:
   a. Emergency supply and evacuation.
   b. Ferrying of troops and supplies.
   c. Routine transportation of personnel, supplies, and mail.
3. Troop carrier units must be diverted from secondary missions, by the highest headquarters in a theater, in ample time to allow complete preparation to accomplish the primary missions.

Competition between those secondary and primary missions rose sharply during the summer of 1944 as ground commanders racing across northwest Europe demanded more and more air transport to replenish their dwindling supplies. Attempts to meet those demands seriously limited airborne operations.

Allied Airborne Operations

One outstanding development in the European theater was the organization, in August 1944, of the First Allied Airborne Army to bring together under a single command both airborne and troop carrier units. It was the major example during the war of the application of the principle of unified command between air and ground forces on any continuing basis below the level of the theater commander. Later, suggestions arose that a similar organization be set up within the United States to direct training and co-ordinate policies. Some officers suggested the creation of an independent *Airborne Forces*. Some Air Force officers, like General Arnold and General Brereton (commander of the First Allied Airborne Army) thought that airborne divisions should be made a part of the Air Forces, while some ground forces officers, on the other hand, raised the possibility of including the troop carrier command in the Army Ground Forces. None of these proposals ever was carried out.

The First Allied Airborne Army's first mission was one designed to exploit the attractive possibility of turning both the Rhine and the Siegfried Line. The British 1st and the American 82d and 101st Airborne Divisions were to seize a series of bridges which would open the way for armor of the British Second Army to drive to the Zuider Zee. After preparatory bombardment of enemy airfields and flak positions in the area on the preceding night and morning, the great aerial fleet, carrying approximately one-half the strength of the three divisions, took off from bases in England on the morning of 12 September 1944. This was the first major airborne attack in daylight, and it was the most ambitious of them all. A total of 1,544 troop carrier aircraft, British and American, and 478 gliders formed two streams. No German aircraft intercepted the columns, but flak claimed 35 American planes and 13 gliders. All units did not hit their drop zones precisely, but in most cases they were massed, and control could be established quickly. For the next 9 days, troop carrier aircraft flew resupply and reinforcing missions while the troops on the ground fought vigorously to consolidate the narrow corridor which would threaten the German position in Holland. On 20 September, the 82d Airborne Division captured the Nijmegen Bridge intact and the tasks assigned the American divisions had been accomplished. For the completion of the mission there remained only the problem of effecting contact with the British airborne troops at Arnhem and seizing the crossing of the Lower Rhine. That, however, proved to be the insurmountable obstacle. After dominating the north end of the Arnhem Bridge for 3 days, the British had lost control of it on

20 September. They held out until 25 September, but, with no hope of ground relief, survivors were withdrawn southward across the river on the nights of 25-26 and 26-27 September. A total of 34,876 troops had gone into the battle by air. In addition, airplanes had carried more than 5,200 tons of supplies, including 568 artillery pieces and 1,927 vehicles.

The final airborne operation in Europe was the crossing of the Rhine on 24 March 1945. The objectives were much more limited than had been those in the air invasion of Holland, but the air fleet marshalled was even more impressive. It was the greatest airlift of troops of the war: two airborne divisions were in the air at the same time. A column of 699 airplanes and 429 gliders carrying the British 6th Airborne Division from 11 fields in England converged south of Brussels with the stream of 903 planes and 897 gliders which was taking off with the United States 17th Airborne Division from 12 airfields in northern France and Belgium. While 1,253 fighters of the Eighth Air Force patrolled east of the Rhine and provided cover for a diversionary bombing attack by the Fifteenth Air Force on Berlin, 900 fighters of the British Second Tactical Air Force flew cover over the target area. Another 213 fighters of the RAF escorted the northern column of troop carriers, and 676 fighters of the Ninth Air Force escorted the southern column. Less than a hundred German fighters appeared over all of northwestern Germany, and none molested the troop carriers. Parachute and glider landings continued from shortly before 1000 to shortly after 1300. Following the troop carriers, 240 heavy bombers of the Eighth Air Force brought 582 tons of supplies. By midafternoon, the two airborne divisions had made contact, and they linked up with the ground forces advancing from the Rhine before nightfall. It was called the most successful airborne operation carried out to date. Unquestionably, the complexities of getting the massive aerial fleet into the air at the proper time and of delivering paratroops, gliders, and supplies at the designated spots on schedule required planning, co-ordination, and skill of execution of a high order. But in view of the relatively light opposition to the assault boat crossings of the Rhine and the rapid advances made on the ground, it does not appear that the airborne phase was essential to the success of the river crossing operation. Indeed, had the same resources been employed on the ground, it is conceivable that the advance to the east might have been even more rapid than it was.

Airborne Operations in the Pacific

Airborne operations in the Pacific and Far East were not as extensive as those in the European theater. Tactical drops were on a scale of no more than a regimental combat team in any one operation. More often than not, aerial supply became the principal mission of troop carrier aircraft, and in many cases supply by air was the major support for ground actions. Most notable of the parachute drops in those areas was the one on Corregidor on 16 February 1945. There, the problem was not one of mass, but of dropping a battalion on an old parade ground, less than 300 by 150 yards in area, above some 3,000 Japanese defenders who waited in caves and pillboxes along the hillsides. Planes had to make several passes over the target, dropping only about six paratroopers at a time, to avoid having them fall into the sea or down the sides of the cliffs. The amphibious assault which followed was able to complete the capture of the island with surprisingly light casualties.

Command and Employment of Tactical Air Power

Meaningful appraisals of the uses of tactical air power in World War II are difficult to make, but certain issues need to be noted. Probably the greatest limitation on the scale of tactical air power was

the competition for resources of the strategic bombing offensives. Somehow, strategic bombing has come to be considered in popular thinking as a short-cut to quick victory—as the ultimate in lightning war. Possibly future developments will tend to support that notion, but in World War II strategic bombing was a weapon not of *blitzkrieg*, but of *attrition*. Unable to knock out a major power with a few great air attacks, strategic bombing, like blockade, tended to promote a creeping paralysis in a nation's economy. Even if gigantic bombing attacks were able to destroy most of a nation's heavy industry at a single blow, that in itself would not immediately stop well-equipped armies already in the field nor would it make impossible retaliation in kind. It would not do that any more than a sudden devastating attack against Detroit, for example, would immediately leave the United States without any motor transport. Several weeks, or even months, must pass before the effects of even successful strategic bombing can be noticed in the combat forces themselves. And in Germany, war production continued to increase, in spite of impressive totals of sorties flown and tonnage of bombs dropped, until after mid-1944. It was tactical air power, rather, which was more the instrument of *blitzkrieg*. Tactical air power could have effects immediately noticeable upon the enemy combat forces.

Frequently, of course, strategic and tactical objectives and results overlapped. The maintenance of air superiority in Europe was due, in part, to strategic attacks against oil and it was due, in part, to tactical attacks against airfields, offensive combat in the air, and interceptor aircraft. Tactical aviation might also have important strategic results. The spectacular successes of the *Luftwaffe* in 1939 and 1940, particularly, had so impressed American planners that they scheduled the activation of 800 battalions of antiaircraft artillery. Even a reduction of this figure to 575 battalions in October 1943 left an authorized antiaircraft strength more than 2½ times as great as all armored divisions and tank battalions combined. This diversion of resources to antiaircraft defense was as effective in limiting American offensive power, at least for the time being, as would have been the destruction of a number of American tank factories by long-range bombers.

Throughout the war, Air Force officers seemed anxious to avoid any restrictions on Air Forces' autonomy which might limit their strategic bombing offensives. Statements of doctrine given in Field Manual 100-20 suggested this major interest. But from the ground officer's point of view, it would have been as logical for the Army Ground Forces to have obtained publication of doctrine stating that long-range, high-altitude bombing usually is unprofitable, as it was for Army Air Forces to obtain publication of Field Manual 100-20 without Army Ground Forces concurrence, stating that air strikes in the zone of contact usually are unprofitable. Ground commanders were impressed by results obtained on the ground, and if close-support aviation seemed an indispensable instrument for the carrying out of their own missions, they felt that it should not be denied them.

The conflict between those advocating centralization of control and those urging decentralization of tactical aviation had a parallel in the history of the Armored Force. There, the conflict had been between those who saw tanks as weapons which should be used in mass independent of the infantry and those who wanted tanks for close support of infantry. For a time, it seemed that the concept of massed armor was to gain the advantage when the Armored Force was established as a semiautonomous force. Armored Force officers like to regard their status as similar to that of the Air Corps. But demands continued for tanks to accompany in-

fantry. Later, the Armored Force lost much of its autonomy, and armored organization recognized *both* functions. There would be armored divisions, but there would also be tank battalions for attachment to infantry divisions. Postwar organization then made tank companies organic to infantry regiments in addition to organic tank battalions in infantry divisions. Army aviation, however, failed to follow that pattern. On the contrary, it moved toward complete independence.

Ground force officers saw in that trend further threats to the possibility of having tactical aviation with aircraft of suitable types in sufficient quantities, and with crews correctly trained, to give the close support to ground operations which they considered indispensable. A board of officers of the Army Ground Forces recommended in 1945 that aviation for close support, immediate air defense, tactical reconnaissance, and airborne and air supply operations be assigned organically to the Army Ground Forces. There was no objection to having aviation for strategic bombing, long-range tactical missions, long-range reconnaissance, general defense, and transport in a separate air force, but they felt that air power needed for ground support should be made available to ground forces to free it of some of the competition of other aviation missions. The sentiments which Assistant Secretary of War McCloy had expressed in 1943 seemed yet to be pertinent. Then he had written:

> What I cannot see is why we do not develop this auxiliary to the infantry attack even if it is of lesser importance [than strategic bombing]. . . . It may be the wrong use of planes if you have to choose between the two, but to say that air power is so impractical that it cannot be used for immediate help of the infantry is nonsense and displays a failure to realize the air's full responsibilities. It is just as bad as was the tendency of the ground forces, some time ago, to confine air operations to such work.

It is difficult to appraise anything at once so broad and so varying from time to time and from place to place as was the use of tactical air power in World War II. As in most human affairs, almost never is it possible to separate the multiplicity of factors present in a given situation. What results would have been obtained by a different use of tactical air power—with more or less planes—with different types of aircraft—with different methods of attack—with different organization—cannot be said with any finality. Yet, it is pertinent to inquire into the possibilities, for history without some consideration of alternatives can have little immediate meaning. Thorough analyses, free of personal bias and service prestige, need to be made of the whole story. The making of valid interpretations and of correct evaluations of the Army's experience with tactical air power in World War II already have become matters of life and death.

Ever since the war ended the Soviets have been busy building up their military force. They have thrown a huge part of their total national effort into the building of the machines of war and into the development of the newest devices of scientific and engineering talent.

Secretary of the Air Force Thomas K. Finletter

B911B

Candle Power on the Battlefield

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The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

"NIGHT combat is characterized by a decrease in the effectiveness of aimed fire and by a corresponding increase in the importance of close combat and the fire of fixed weapons laid on definite targets or areas by day; by difficulty in movement, troop leading, and the maintenance of direction, cohesion, and signal communication; and by a more highly sensitive morale of the troops."—Field Manual 100-5, *Field Service Regulations, Operations.*

This terse description suggests a finality of conditions which are permanent and beyond solution. Can we afford to accept these restrictions which darkness imposes, or should we develop effective methods and techniques which will eliminate these handicaps to our mobility and fire power? Our ground strength is not based upon overwhelming manpower but upon the employment of superior weapons capable of delivering accurate and sustained fire with effective destructiveness. Irrespective of how advanced in design our present ground weapons may be, maximum effectiveness of their fires can be realized only when targets are either visible or previously located by observation. Science has yet to develop fully a device which will invisibly penetrate the darkness of night, locate movement and targets under all conditions of terrain and weather, and make possible the full utilization of all available ground fire power.

We must face these facts as they exist. Whenever battlefield superiority against a numerically stronger enemy depends heavily upon fire power capabilities, there exists the constant danger of this balance being reversed by mass attacks in darkness against troops whose weapons lose their full effectiveness and flexibility. A complete solution to this problem of night vision may some day be obtained by technical equipment not presently known. However, the uncertainties of future developments should not deter commanders and staff officers from appreciating the means now available by which they may increase the battlefield value of weapons and men during periods of darkness.

Night Operations Emphasized

The vigorous emphasis on night operations during World War II was due to the early recognition of the variations in fire power effectiveness between day and night. Time and again it was proved that well-trained troops could conduct successful attacks in the black of night against objectives too formidable or costly for seizure during daylight. The actions varied in size from platoon assaults to those conducted by armies. A classic example of a

large-scale night attack is the Battle of El Alamein. General Bernard L. Montgomery launched this attack at 2200, along a 20-mile front, on 23 October 1942. More than 100,000 men participated in this operation. On the Eastern European front, the Soviets learned the advantages of night attacks very early. An article from a Soviet military publication in December 1942 had this to say, "It has already been proved by dozens of battles that it is possible and essential to carry out offensive fighting at night not only by infantry but also by other types of troops." It is worthy to note that enthusiasm for night attacks was not based upon trifling engagements, but upon spectacular achievements accomplished with methodical frequency. Could these victories have been accomplished by the same forces during daylight? A negative answer to this question leads us directly to the antidote for night attacks—adequate battlefield illumination.

Research

Prompted by the actualities of night combat in World War II, our commanders recognized the importance of lighting the combat area during darkness. They attempted to develop new tools to do the job and to improve old ones. Accelerated research programs were undertaken by War Department agencies to improve illumination for both night attack and defense. Unfortunately, the termination of hostilities and our subsequent rapid return to peacetime patterns practically eliminated the continuity of imaginative thinking and experimentation on this vital problem. We have been somewhat rudely awakened from our lethargy by our experiences in the Korean fighting. Here again, the requirements for and potentialities of introducing visible light, in quantity, to the dark battlefield have been demonstrated. These rejuvenated revelations make it imperative that our military leaders again become acquainted with the capabilities and limitations of present illuminating methods and, even more important, use their ingenuity to devise better techniques.

Methods of Illumination

Artificial visible light may be brought to the battlefield by flares, illuminating projectiles, searchlights, or temporary expedients of a combustible character. All of these methods were used during World War II with varying results. Illuminating shells are normally designed to fill a particular combat requirement at a specific level of command; that is, 60-mm shells for use at the company level on up to 155-mm shells at the division level. Candle power output depends upon the size and efficiency of the pyrotechnic component. Each is characterized by short burning periods, usually measured in seconds. The brief illumination period accounts for the large consumption rates when continuous illumination is required. Two rounds per minute from the 155-mm howitzer will give sufficient light on a thousand yard front to permit the adjustment of artillery fire. To produce the same illumination for 8 hours across a normal 10,000 yard infantry division defensive sector would require 9,600 rounds of ammunition. In a theater of operations, even moderate use of these illuminants creates tremendous logistics problems. Airplane flares have little parasitic weight, so they can be designed to give greater illumination

Even the finest ground weapons lose their full effectiveness during periods of darkness. Battlefield illumination can assist in restoring fire power potential and increase the mobility of our troops at night

for longer periods. The full potential of this equipment in the ground-support role has not been investigated. Ground-controlled radar bombing techniques open new horizons in this field.

Searchlight Illumination

The most revolutionary approach to battlefield illumination was initiated by the British Army in the early years of World War II. Experiments conducted with powerful searchlights indicated a ground combat role was feasible for these lights. They confirmed this conclusion by battlefield tests against the Germans in North Africa. This evolutionary change in the application of searchlight beams was not understood immediately by many military leaders. It was not until 1944 that we grasped its true significance and began battlefield tests on an impressive scale. Our antiaircraft artillery searchlight batteries, with their twelve 60-inch 800-million candle power lights, proved adaptable to this mission. These lights, which we still use, are approximately twice as powerful as the British type. The results they achieved merit close professional appraisal and justify a studied examination of their potentialities.

Our 3d Infantry Division used a platoon of six lights to support their offensive night actions in the Colmar Pocket during early 1945. One regimental commander made this report on their effectiveness, "It is recommended that this means of illumination be used whenever possible on moonless nights. The advantages are improved control and speed of movement, facilitated supply operations, increased efficiency of outposts and guards, improved night driving, increased visibility of targets and landmarks, and, thus, a resultant natural confidence from the increased visibility. Other battle reports from American units in different theaters of operations substantiate the acceptability of these observations. This similarity of enthusiastic acclaim is remarkable when one considers that neither antiaircraft artillery searchlight personnel, then operating the lights, nor the supported infantry troops had prior training or experience with this battlefield innovation. Apparently, our Soviet allies on the Eastern front made a similar appraisal of searchlight illumination. Colonel General V. Kozakov made this comment when describing the launching of the final drive against the approaches to Berlin. "At 0520 (16 April 1945), the dark sky was lit by several powerful vertical rays of projectors. This was the signal for the attack. The projectors over the entire front went on, blinding the enemy and illuminating the battlefield for our troops."

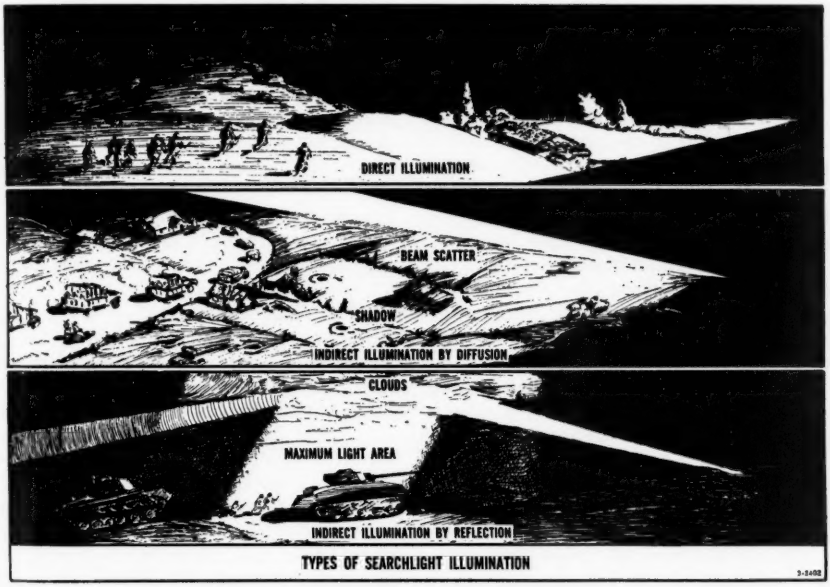
Were these favorable reports exaggerated, understated, or accidental distortions by players on the winning team? Reserve your opinion until you have examined the principles of artificial illumination and their application to battlefield conditions. A clear understanding of these factors may be very renumerative at some future time.

Methods of Employing Searchlights

Searchlights employ two basic types of illumination, direct and indirect, with the latter being further divided into diffused and reflected light (see illustration on page 53). When the light is placed to give line of sight illumination we have direct lighting. Indirect illumination is produced by either diffusion or reflection. Diffused light is obtained by placing the searchlight in defilade and directing the beam at the minimum elevation above the ground to utilize the forward scatter of the beam caused by the presence of atmospheric particles. Reflected light is obtained by directing the searchlight on low hanging clouds over the area to be illuminated. The light produced by indirect methods is popularly referred to as artificial moonlight. The following hypothetical situations will illustrate various applications of these types of illumination.

Direct Lighting

The 20th Infantry Division was deployed in a defensive position along an unfordable river. Terrain on both sides of the river was relatively flat, except for a series of hills, which run parallel to the river, and extend about 9,000 yards to the rear of the division's forward positions.



TYPES OF SEARCHLIGHT ILLUMINATION

Aerial photographs disclose assault boats and supplies were being assembled by the enemy opposite the positions occupied by the division's 58th Infantry Regiment. At 0400, on a dark clear night, the 58th Infantry positions were subjected to extremely heavy artillery and mortar fires. Illuminating shells from the 58th Infantry's supporting artillery burst high over the far river bank. In this sporadic light, great numbers of assault craft were seen leaving the far shore. Suddenly, the entire crossing area was brightly illuminated at almost daylight intensity. Enemy landing craft in the water and reserves on the far shore became clearly visible to the defenders. Accurate and effective direct fire was placed on the boats while mortar and artillery concentrations were shifted to fall upon renumerative targets. The assault was repulsed with a withering hail of controlled fire power.

How did the 58th Infantry Regiment obtain this tremendous advantage of visibility? The process was relatively simple. Good intelligence indicated where the crossing would be made and the division commander recognized an ideal opportunity for searchlight employment. Prior to the enemy attack he requested the corps commander to assign a platoon of searchlights to the division. The lights were secretly emplaced in protected ravines on the high ground in the division rear area with line of sight observation from each light to the river line opposite the 58th Infantry. The platoon leader determined correct azimuths and elevations necessary for proper coverage of the critical sector by the use of artillery survey methods. Good communi-

cations were established between the division fire direction center and the forward observers with the supported regiment. Control of the lights was given to the 58th Infantry commander, who had been instructed not to use them unless a major enemy crossing was attempted. When the assault did occur surprise was achieved and the assaulting forces repulsed.

Diffused Indirect Lighting

The 6th Infantry Division was engaged in fighting a delaying action against a numerically superior army. The mission assigned was that of delaying the enemy for 4 days while the remainder of the XII Corps moved into strong defensive positions to the rear. The division had accomplished this mission and was now in corps reserve. An engineer searchlight platoon* had supported the division in the action, and a report to the corps commander on the use of these lights contained these comments:

1. On the clear, dark nights of the reported period, each light, when placed in defilade 7,000 to 10,000 yards behind the line of contact, furnished a half-moon lighting effect to a maximum width of about 1,000 yards.

2. Enemy troop movement could be observed at distances of about 100 yards against relatively light backgrounds while the enemy could not observe our movement for more than 50 yards when facing toward the light source.

3. Movement of troops, supplies, and ammunition was decidedly facilitated.

4. The ability to detect enemy movement early was a definite psychological aid and promoted confidence in the troops who were holding defensive positions at night.

5. The illumination furnished material aid to the construction of obstacles, mine fields, emplacements, and the laying of weapons.

6. Enemy artillery efforts to neutralize the lights were unsuccessful as positions selected had forward masks which concealed the light source and made range estimation extremely difficult.

7. The enemy air threat to the lights was minimized by the intermittent use of lights, by early warning, antiaircraft artillery fire, and friendly night-fighter cover.

Reflected Indirect Lighting

First Army launched an attack to seize a critical communication center deep in enemy territory. The XV Corps, making the main effort, succeeded in penetrating the hostile position. It then appeared that the enemy forces were beginning a general withdrawal behind a delaying screen to reorganize their shattered elements. The XV Corps commander ordered two of his infantry divisions to continue the attack throughout the night and destroy the escaping enemy. He attached an engineer searchlight platoon to each division for illumination support. The weather was well suited for maximum illumination by reflected beams as a cloud layer 1,500 feet above the ground blanketed the battlefield. When darkness fell, focused searchlight beams struck the cloud barrier above the areas of contact providing almost full moonlight illumination to the scene of battle. Observers with the forward elements of each division shifted the lights as the situation changed to secure maximum effectiveness at points of contact.

Under this illumination the attacking troops made some startling discoveries. They found the long shadows cast toward the enemy offered excellent concealment as they moved forward. Aimed rifle fire was not possible, but area effectiveness was greatly facilitated by the outlined terrain features. Rapid foot movement and control of combat formations were possible. A 50 percent vision advantage over the enemy, who was looking toward the light source, was noted. These factors permitted

* Responsibility for searchlight units was transferred from antiaircraft artillery to the Engineer Corps in September 1950.

rapid and co-ordinated forward movement of the divisions and made possible the complete destruction of the retiring units.

The results obtained in the foregoing hypothetical situations may seem overly optimistic. However, the type of operations described are not unusual, and under the conditions stated, the illumination furnished was adequate for the missions assigned.

Limiting Factors

As with most other military equipment, there are certain conditions under which the use of searchlights may be limited. The most confining limitations will be imposed by variations in meteorological conditions. Good weather forecasts could materially reduce this handicap. Heavy rains, snow, fog, and dense smoke are formidable adversaries. However, moderate rains can be penetrated and satisfactory light obtained.

Summary

Properly operated and emplaced, the lights are extremely difficult to neutralize with artillery fire. Terrain presents no great obstacle except when the ground is too flat and defilade is not available for concealment of the light source. Enemy air superiority does present a definite threat to their use. Historical records indicate that minor air attacks were ineffective against searchlights during World War II.

It is unfortunate that more thought and scientific effort has not been devoted to the problem of battlefield illumination. Even the best methods presently available fall far short of the requirement. We can equip our combat troops with the finest weapons of war, but unless they can employ these weapons to their intended potential on a 24-hour basis these superior qualities are dissipated. We must improve our night illumination methods to permit full utilization of our fire power. Failure to solve this problem may have disastrous consequences during critical periods of ground combat.

When properly integrated, and properly co-ordinated, the American military services, American scientific genius, and American industrial capacity can offer hope of restoration of real and enduring peace.

General J. Lawton Collins

COMBINED OPERATIONS IN LOWER UNITS

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ALL wars in recent history have been fought by a coalition of nations against a common aggressor. The mutual enemy was one nation or, more probably, a coalition of nations. To achieve victory in such an undertaking, it is necessary that a high degree of co-operation exist among the allies. Purely national aims and aspirations must be subordinated to the common cause. The military strength of several nations must be combined, co-ordinated, and directed against the enemy. An over-all command structure must be agreed to and established. Politico-military policies must be determined. The objectives of the common cause must be clearly defined and must ensure motivation for all nations alike. Finally, the men and women of the armed forces of the several nations must learn to operate together as a team.

Differences in language, customs, culture, national policies, pride, and personal prejudices all complicate this task of achieving intelligent, complete co-operation. Time, patience, and unstinting effort are required to attain the mutual understanding and respect among allied forces that are so essential. Combined operations highlight the extreme importance of human relations in military operations, as well as tactics and logistics.

Problems in Combined Operations

The purpose of this article is to discuss some of the problems inherent in combined operations from the viewpoint of lower units. These problems will be discussed in their broadest, nontechnical sense. While there are many technical difficulties encountered in combined operations, the purely technical problems can and are being overcome by research and development, culminating in new equipment, by standardization of equipment and procedures, or by improvization. There remains, however, the basic difficulty of establishing in the minds of men of different nationalities, language, and culture the understanding, patience, and respect that are so essential to an allied partnership.

In World War II, the majority of all combined operations were planned and conducted at theater, army group, or army level. In the current United Nations operations in Korea, however, combined operations at division or regimental level are the rule rather than the exception. In any future operations in Europe in which North Atlantic Treaty Organization or United Nations forces may become involved, it is entirely likely that combined operations will be conducted by units of corps size or smaller. There are many reasons for this, but the most compelling is that the bulk of the non-Communist nations of the world today are united against a common enemy: world-wide Communist aggression. To withstand this aggression, the Anglo-American powers need the help of those other nations of the

world which still remain free, and these nations are not all able to contribute equally to the common cause in terms of manpower and matériel. If we are to co-operate successfully with these active or potential allies, we must exert every effort to get along with them. This effort must include the acceptance and employment of such armed forces as they are able to raise. In many instances, these forces may be independent brigades or even battalion-size units. These units, in turn, then must be welded together or attached to larger units of other nations to ensure the logistic support and co-ordination necessary to achieve maximum combat power. This situation places emphasis upon the need for an appreciation of the basic problem; understanding between ourselves and our allies.

World War II Experience

During World War II, this same problem of mutual understanding was encountered and successfully overcome at higher levels. There was less opportunity for combined operations among lower units in the field, but where the opportunity did exist, the answer to the basic problem was arrived at just as readily. Perhaps the outstanding historical example of allied co-operation was found in the European Theater of Operations. In this theater, sound command relationships grew out of previous experience in the Mediterranean theater and in the command and staff organization for the North African invasion, Operation *Torch*. This latter organization was entirely British and American, as the French reaction to the venture was not certain and the whole project was laden with international politico-military problems.

Of the command and staff organization for the North African invasion, General Eisenhower has said:

> In the organization, operation, and composition of my staff, we proceeded as though its members belonged to a single nation. Nevertheless, we tried to include in every section individuals from both nationalities, and certain modifications in normal United States organization were compelled by differences in the staff procedure of the two countries. In the early days, officers of the two nationalities were apt to conduct their business in the attitude of a bulldog meeting a tomcat, but as time went on their own discoveries of mutual respect and friendship developed a team that in its unity of purpose, devotion to duty, and absence of friction could not have been excelled if all its members had come from the same nation and the same service.

Later, in the North African campaign, the problem of combined operations was complicated further by the French refusal to serve under British command. This was a natural aftermath of ill-feeling still enduring from the British-French clashes in Syria, Oran, and at Dakar. Finally, however, when the situation became critical just after the middle of January 1943, General Eisenhower placed all troops under the command of General Kenneth Anderson, then commander of the British First Army. Neither General Juin, in command of French forces in the line, nor General Giraud objected to this arrangement. The need for such action had become too obvious. Units were badly mixed, no local reserves were available, and the battle front was a long, tenuous line stretching from Bizerte to Gafsa. National pride and personal feelings were subordinated to the common good.

History has proved that war can be waged effectively by a coalition of nations. Co-operation must be the keynote, if the combined armed strength of nations is to be co-ordinated and directed against the enemy

Planning for Overlord

While the North African campaign and

the later Sicilian and Italian invasions were being fought and planned in the Mediterranean theater, a planning staff was quietly assembled in England to begin work on that greatest of invasions, Operation *Overlord*. As no Supreme Commander had yet been designated, and as the British were then visualized as playing the leading part in this venture initially, an able British officer, Lieutenant General Sir Frederick Morgan, was named as Chief of Staff to the Supreme Allied Commander (COSSAC) (Designate). Thus COSSAC, which became the nucleus of SHAFE, came into being and another experiment in combined operations was begun.

General Morgan had observed General Eisenhower's Anglo-American headquarters in action and insisted upon the complete amalgamation of British-American staff effort, troops, and all resources from the very beginning. General Morgan relates, in his intensely interesting book *Overture to Overlord*, some of the difficulties that were encountered. In the initial stages, the creation of this integrated staff was far from sweetness and light. As General Morgan states:

> Difficulties major and minor were encountered on every hand, at every turn, by reason of the simple fact that we were dealing with human material. The COSSAC staff, containing as it did men and women of six fighting services of two different nations, was bound to contain all the elements of discord. There were incessant clashes of personality, and these, moreover, occurred not only between nation and nation or between service and service. It is no use denying the fact that there are Americans who cannot take British just as there are British who cannot take Americans. At the same time there were cases on the COSSAC staff of British officers who inspired the admiration and affection of their American colleagues but who lacked the power to collaborate with their own British comrades, and vice versa. I have mentioned the absolute necessity for speed in the elaboration of our plans. There was little time for argument or for the negotiation of personal reconciliations. It was necessary to resort to surgery rather than to medicine.

These clashes of personality had their foundation in national differences. It did not take long for the COSSAC staff to realize that the American and British lines of approach to a military problem, as in so many other things, were 180 degrees apart. General Morgan observes that his British and American staff members came at a problem from exactly opposite directions, but fortunately had the knack of arriving at the same point at the same time. American impatience frequently saw in British patience what was categorized as undue deliberation. The lack of demonstrated enthusiasm by the British puzzled many American staff officers. They were forewarned of the British habit of understatement, but found it hard to cope with continually and in all things. Even in eating habits, the British and Americans differed sharply. Not only in the bulk and composition of the actual ration, but also in the matter of hours. According to British time schedules, the Americans ate breakfast in the middle of the night, lunch halfway through the morning, and dinner at teatime. And of course there was the question of language. Although both nations enjoyed a common language, which was a great advantage in all discussions, there were many differences of expression which led to some confusion and many amusing incidents. Bernard Shaw is credited with the statement that the British and Americans are divided by a common language. Certainly, as the COSSAC staff learned through experience, in military phraseology at least, British English and American English are not the same.

These divergences and difficulties at the staff level were overcome largely by the spirit which inspired all those who were a part of COSSAC. The certainty grew, in the minds of the planners, that they were preparing a blueprint for victory. This was based upon the magnitude of the operation, its meaning to the free world, and the unconquerable determination of the allied nations to succeed in this great undertaking. The many real or

imagined problems of mutual understanding evaporated before the increasing warmth of personal and international cooperation. General Eisenhower, in speaking of the investigation, studies, and research, as well as the organization, training, and operational and logistic planning that lead up to Operation *Overlord*, refers to it as being, first of all, "an exercise in co-operation among allies and among services."

The slow and bitterly fought Italian campaign provided another striking example of the solidarity of the United Nations. Fighting under the 15th Army Group, at some time during the Italian campaign, were Americans, British, Canadians, French, New Zealanders, South Africans, Poles, Indians, Brazilians, Italians, Greeks, Moroccans, Algerians, Arabs, Goums, Senegalese, and a brigade of Jewish soldiers. The record of victory which they achieved remains as a testimonial to their bravery, team spirit, and co-operation.

The invasion of Southern France—Operation *Anvil*—was a landing executed by an American army assisted by the French underground and an Anglo-American airborne task force. The initial landing was followed quickly by the landing of divisions of the French I and II Corps of General de Tassigny's First French Army. Soon all of the American and French forces in the southern area were combined into the 6th Army Group, commanded by Lieutenant General Jacob L. Devers. As this force swung to the east to join in the all-out assault on Germany, the 6th Army Group, commanded by an American, included a French army which, in turn, included at one time more than 125,000 American troops. The allies had attained the mutual understanding, patience, and respect that are essential to close co-operation. The victories achieved in the Mediterranean and European theaters proved beyond doubt that war can be waged effectively by a coalition of nations.

Korea Repeats the Lessons Of World War II

In Korea, we are again faced with the necessity of knowing how to get along with our allies. There, soldiers of Australia, Belgium, Canada, Colombia, Ethiopia, France, Great Britain, Greece, India, Luxembourg, the Netherlands, New Zealand, the Philippines, Thailand, Turkey, and, of course, the United States and the Republic of Korea are included in the ranks of the Eighth United States Army in Korea. This is probably the most cosmopolitan army in history. General Van Fleet's command includes substantial United States and South Korean forces, and a total strength of around 35,000 in other allied units. Of this number, the British Commonwealth is represented by about 20,000 and Turkey by 5,000. After that, the size of the forces decrease sharply, down to the 50-man task force from Luxembourg that constitutes part of the Belgian complement.

Many of the smaller units are of battalion size and, for operational purposes, have been assigned to American divisions. Usually, they are attached to the organic regiments of the division so that each regiment has four battalions. The close integration of these forces from other nations has brought the problem of combined operations to lower unit level.

It is difficult to compare relationships with units of the several nations because of the variables of national character, background, race, and inherent mental and physical qualities. For example: some units come from highly industrialized countries and the employment of artillery and mechanized equipment is not difficult for them. Other units, however, are less prepared by their training and national environment for the application of such weapons at battalion level. Noticeable differences in the state of training exist; from the old-line, proud, professional units of some countries to the green, hastily

formed South Korean units. During the early and fateful days of the campaign, it was necessary for the South Koreans to take farmers out of the stream of refugees, train them for 3 or 4 days, equip them meagerly, and then tell them that they were soldiers! These men received their actual training in battle, and those who survived are now effective soldiers in the ROK divisions.

Unit Organization

A further point of difference lies in unit organization. A "battalion" from one nation is not identical with a unit of the same name from some other country. Although a brigade is roughly the equivalent of an American regiment, the two units are not identical, and again the organization of brigades differs as between nations.

Equipment

Equipment does not present the tremendous difficulty that it once imposed upon combined operations. Units from those allied nations participating in the Mutual Defense Assistance Program arrive in Korea already trained and equipped with United States weapons and matériel. With the exception of the British units, nearly all of the allied forces are equipped entirely or in substantial part with supplies procured from the United States. British units have their own weapons, transportation, and supply lines, but, in the aggregate, the effort toward standardization of equipment has made material progress.

Logistics

In spite of this achievement, there still remain many differences in national preference and custom which influence the logistic support of these cosmopolitan forces. The Turks, for example, are Mohammedans and have religious prohibitions against pork. They require, and are issued, a special pork-free C ration supplemented by large quantities of olive oil and bread. The Filipinos and the Thailanders both require ample rice, but will not use the local or the American grown rice. As a consequence, it is necessary to procure rice from the Philippines and Thailand for the units of those respective countries. The ROKs, on the other hand, much prefer their own local rice, but are also well satisfied with American food. Although such differences in dietary habits and preferences do exist, they are not as widespread as they might appear. Basically, the United States Army ration is used, supplemented as required to satisfy the national taste of the respective allied units.

Language

The barrier of language is present, but it is surmounted in a variety of ways. Although we Americans are not noted for our linguistic accomplishments, many units are fortunate in having officers and men who are fluent in one or more tongues other than English. Such individuals are in great demand, and their talents are particularly applicable in Korea. It is to our great advantage that many of our allies consider mastery of English as a requisite part of their military training and are, therefore, able to provide the necessary interpreters for combined operations. Korea has become a land of many languages and is likely to remain so. Soldiers of the United Nations acquire Korean bearers, or houseboys, to assist them with their unofficial tasks. These houseboys quickly pick up scraps of their employers' language and can make themselves understood in a variety of tongues. There is still a difficulty, of course, but language is not the serious problem that it once was.

Teamwork Requires Time And Understanding

Today, the United Nations forces in Korea form a tremendously effective team. Through experience, they have achieved the understanding and respect so necessary to a successful partnership. Allied

units of brigade strength are attached to United States divisions and are held under divisional control. Units of battalion size are further attached to United States regiments. They remain with the regiment to which they are attached, wear the division patch, receive their tactical and logistic support from divisional sources, and are considered an integral part of the larger unit.

United States commanders and staff officers have learned that units of other nations operate in a different manner from our own, but the results achieved are the same. There are few differences in tactical doctrine, but many variations in the techniques employed. Once these differences are recognized and understood, they cause no further difficulty.

Liaison

Early liaison with United Nations units is highly desirable. Such liaison is of material assistance in procuring information necessary to facilitate the integration of the allied unit. The status of training, equipment, and supply can be determined and necessary action initiated to ensure the prompt correction of existing deficiencies. The seeds of mutual understanding can be sown and a firm basis established for the future employment of the unit. Indoctrination is begun and the unit made to feel that it is a part of the parent organization. Ideally, liaison with the United States division with which it will serve should begin before the United Nations unit leaves its own country, but, in any event, it must be established as soon as possible.

Liaison officers are sent to the allied unit by the organization to which it is attached. These liaison officers are accompanied by interpreters when necessary and available. In many cases, it is not necessary to use the services of interpreters, or, when necessary, they may be provided by the allied unit concerned. Normal communications facilities are established from the higher to the lower unit. In some cases, these facilities are operated by bilingual operators. In other instances, operators of one nation sit beside operators of the other. When an order is issued, it is transmitted in English and translated by the receiving headquarters. The order then is studied jointly with the United States liaison officer and any misunderstanding or confusion clarified. At one time, operations were delayed by the obstacle of language and the variations in the techniques of applying tactical doctrine. Adequate liaison, together with time and understanding, have practically eliminated this difficulty.

Personalities

The personalities of commanders and staff officers have been found to be of particular importance in combined operations. Professional ability and strength of character may be outweighed entirely by a discourteous, unco-operative or condescending attitude. The commander and his staff must make frequent visits to the allied unit as well as to their own.

The information gathered while on these visits will assist them in anticipating and preventing the mutual irritations between allies that naturally lead to misunderstandings. It also is important that the allied unit be employed without discrimination and within the limit of its capabilities. The commander must know these capabilities and utilize the full power of the allied unit as well as his own. A definite objective must be provided for the soldiers of all nations. They must know what they are to do as well as why they do it.

A knowledge of the other nation, of its customs, its contribution to the common cause, and an appreciation of its problems will improve allied relations in any combined operation. The United Nations forces in Korea have relearned some of

the lessons of World War II in allied co-operation. These lessons emphasize certain principles that are equally applicable at lower unit or higher staff level.

Conclusions

In looking to the future and the possibility of combined operations at lower unit level in other United Nations armies, some general conclusions may be drawn as a result of our experience in World War II and our more recent Korean experience. These may be summarized as follows:

1. Co-operation is, and will remain, the keystone of successful allied endeavor.

2. Mutual understanding and respect, essential to combined operations, are developed through education, experience, patience, and tolerance.

3. Command structure must be clearly defined and known to all.

4. The forces contributed by each allied nation must be accepted and employed without condescension.

5. Small allied units must be integrated into larger ones, and employed in the same manner as other units of the parent organization.

6. Early liaison must be established between allied units.

7. Commanders and staff officers must be carefully selected on the basis of personality as well as character and professional qualification.

NEXT MONTH

Main Articles

The Economic War Potential of Asia by Lieutenant Commander Joseph Z. Reday, *USNR;* and *The Impact of Guided Missiles on Ground Warfare* by Major Nels A. Parson, Jr., are included among the main articles.

Foreign Military Digests

The foreign digests include "The Crux of Our Peril" from *The Hawk* (Great Britain); and "Artillery in the Defense on a Wide Front" from the *Australian Army Journal.*

Books of Interest to the Military Reader

Reviews of *Realities of World Power* by John E. Kieffer; and *Red Banners Over Asia* by O. O. Trullinger are included.

MILITARY NOTES AROUND THE WORLD

UNITED STATES

Cargo Record

During the 1951 calendar year, the Military Sea Transport Service (MSTS) carried enough cargo to fill a train stretching 6,641 miles, or about as far as from New York City to Tokyo. Over that period, MSTS transported 34,311,000 measurement tons of cargo; 2,138,000 passengers; and 14,512,000 long tons of petroleum products.—*Armed Force.*

Garand Rifle Mechanism

The inventor of the famous Garand rifle, carried by millions of Americans in World War II and in Korea, recently received a patent for improvements in a valve mechanism on the rifle to be operated when a grenade launcher assembly is attached. He has assigned his patent to the Government.

In launching a grenade with a rifle, the gases in the barrel build up a great deal of pressure. The purpose of the valve is to relieve that pressure and thus save the recoil mechanism of the rifle from excess wear. The valve is opened by force when the grenade launcher is attached to the rifle, but it cannot be jarred open when the launcher is not in use. The valve also closes readily after the launcher is removed.—*Science News Letter.*

New Helmet for Marines

A new lightweight helmet, which looks something like the heavier ones worn by the German Army in World War II, is being tested and developed by the Marine Corps for use by its combat troops.—*Army Navy Air Force Journal.*

Military Aid

The United States has shipped more than 2,500,000 tons of military supplies to its free allies in the first 2 years of the Mutual Defense Assistance Program.

Among other things, the United States has shipped more than 7,000 tanks and combat vehicles, 30,000 transport vehicles, 11,000 artillery pieces, 1,400 planes, 300 naval vessels, nearly 800,000 rifles and machine guns, and nearly 300,000,000 rounds of ammunition.—News release.

Navigation Device

A navigational device has been developed which automatically tells pilots where they are, exactly how far they are from their destination, and the direction in which to proceed to reach it.

While it is designed primarily for use in high-speed aircraft, the system may be employed in surface craft, or to fix the position of any point on the earth's surface.—*Science News Letter.*

Navy Expedition

A Navy expedition reported recently that it had found ice frozen to a depth of 10,000 to 20,000 feet by the 40-degree-below-zero temperatures at the top of the world.

The expedition is trying to establish scientific observation posts near the North Pole.—News release.

Hunter-Killer Group

The Navy has deployed a carrier hunter-killer group to the Far East "to cope with the submarine threat if it should materialize."—*Army Navy Air Force Journal.*

Circuit Checker

Future air catastrophes may be reduced by an electric circuit checker.

Known as the Nacelle Tester, the instrument is capable of giving 200 airplane electric circuits the once-over in less than 10 seconds. Hand testing the same number would require hours.

The instrument checks electric wiring to the propellers, carburetor, and other vital parts of airplanes.—*Science News Letter.*

Hotter Sabre

The Air Force has started to receive delivery of a new and hotter *Sabre* jet fighter. The new plane, powered by a *J47-GE-27* engine, is 10 percent more powerful than the types now fighting in Korea.—News release.

Polar Weather Station Planned

The Air Force has announced the establishment of an advance camp of a weather observation station near the North Pole, an area which vitally affects weather throughout the Northern Hemisphere. Plans call for the establishment on a floating island 60 miles from the Pole of a semi-permanent, four-man observing station of an air weather group.—News release.

Atomic-Powered Submarines

The Navy believes that it could reduce the size of its submarine fleet by two-thirds if all its underwater vessels were atomic powered.—News release.

Conservation Program

The Navy's conservation program, begun in 1948, has resulted in the recovery of an estimated 8 million dollars in lead, copper, and "super-alloy" scrap.

Approximately 10,000 tons of lead have been recovered since 1948. All lead on hand, and more, will be needed for current ship constructions and conversions. New submarines will use 1,500 tons.

A program begun in 1951 has salvaged nearly 7½ million pounds of copper and copper-base alloy. About 200 tons of "super-alloys" containing chromium, cobalt, columbium, molybdenum, nickel, and tungsten have been recovered at Naval air stations during jet engine overhaul and repair. Alloys from this program, under way since 1950, are used in producing new engines.

An estimated 119,000 pounds of nickel have been saved by salvaging Navy armor plate.—News release.

'Voice' Cuts Jamming

Voice of America radio stations overseas are using a new electronic weapon to combat Soviet jamming.

The State Department states that the new device, known as a heterodyne filter, has proved effective in certain types of jamming and other interference. In a recent test in one relay base, the filter proved effective against 52 percent of the interference, and in another test it saved or improved program reception 60 percent of the time.

The filter, inexpensive and small in size, is to be installed on all Voice of America transmitters overseas. It was developed by radio engineers of the State Department.—News release.

Plasma Substitute

After 10 years of research, medical scientists have produced from the red cells of human blood what is considered a substitute for, and adjunct to, blood plasma.

The product, known as modified human globin, is expected to provide twice as much material from each pint of blood as is now obtained in the form of plasma.—*The New York Times.*

Jet-Speed Photography

A high-speed aerial camera, capable of taking remarkably detailed pictures at speeds up to 3,000 miles an hour, was unveiled recently by the Air Force.

Mounted in a jet plane traveling about 500 miles an hour at an altitude of 1,000 feet, the new camera took pictures so clear that railroad ties on train tracks were plainly visible in experimental photos. At 500 feet, but traveling at the same speed, the photographs showed not only the spike heads in the ties but the grain of the wood as well. On a plane moving at the same speed but only 60 feet up, it took pictures of a grounded bomber that showed each rivet on the plane.—*Ordnance.*

All-Weather Fighters

The air approaches to the United States now are guarded by about 300 all-weather jet fighter planes kept on constant alert. The number is increasing.

When an alert is sounded, flying personnel, already dressed in bulky arctic clothing, are directed aloft instantly by ground control intercept stations. These stations give the pilots and radar operators necessary information to reach the target area. There the airborne radar operator takes over and gives the pilot directions. When the target is within range of the fighter's guns, the pilot can use an additional radar scope in his own cockpit.—News release.

Roger Becomes Romeo

United States airmen, already famous for their unique air talk and jet patter, will have a new language to cope with this month, when a new international phonetic alphabet is adopted by the Air Force.

OLD	NEW
ABLE	ALFA
BAKER	BRAVO
CHARLIE	COCA
DOG	DELTA
EASY	ECHO
FOX	FOXTROT
GEORGE	GOLF
HOW	HOTEL
ITEM	INDIA
JIG	JULIETT
KING	KILO
LOVE	LIMA
MIKE	METRO
NAN	NECTAR
OBOE	OSCAR
PETER	PAPA
QUEEN	QUEBEC
ROGER	ROMEO
SUGAR	SIERRA
TARE	TANGO
UNCLE	UNION
VICTOR	VICTOR
WILLIAM	WHISKEY
X-RAY	EXTRA
YOKE	YANKEE
ZEBRA	ZULU

1-2402

The revised alphabet, designed by the International Civil Aviation Organization to reduce confusion in pronunciation on an international scale, is the result of studies by linguists from Harvard and McGill Universities who offered it as the most adaptable to the romance languages.—*Armed Force.*

Submarines Modernized

Two sleek submarines—the *Pompon* and *Rasher*—have been sliced in half and fitted out with new midsections to prepare them for modern warfare.

The 211-foot subs are among the first of the country's undersea fleet to be reconditioned in this manner with the latest in submarine equipment.—News release.

Air National Guard Units

Some 330 Air National Guard units from 44 states and the District of Columbia are scheduled for return to state control during the next 6 months.

The Air Force will activate new units to replace the units returning to their respective states. These new units will take over the aircraft and equipment of the returning Guard units.—News release.

Steel Production

The United States kept its lead in world steel production last year, with the Soviet Union coming a poor second, according to a report by the British Iron and Steel Federation.

America produced 93,870,000 tons, compared with the Soviet Union's 30,800,000.

The Atlantic Pact countries boasted a total output of 134,000,000 tons, compared with the 40,000,000 tons of the Communist bloc.—News release.

Super Insecticide

A new insecticide reported to be so powerful that 2 ounces of it in solution will clear all bugs from an entire acre of farmland now is being mass produced by the Army.

Tests show that the poison, although harmless to animals and men, is deadly to insects. The chemical is persistent and remains effective for weeks after a spraying, and it does not utilize any critically short materials in its manufacture.—*Army Times.*

New Jet Engine

The Navy has announced that it has completed the first tests of a new *J48* jet engine for fighter planes and expects to start production this fall. According to the announcement, the engine, an advanced model of the *J48 Turbo-Wasp,* is capable of increased performance and also makes a substantial saving on critical materials.—News release.

Escape Capsule

The Navy Bureau of Aeronautics has come up with a special escape capsule for supersonic planes. It has been tested successfully in wind-tunnel speeds of more than 1,200 miles an hour. Pressurized, it contains oxygen equipment, pararaft, and can be used in both fighters and multiplace planes.—*Aviation Age.*

Jet Pilot Ejection

Ejecting a pilot from a faster-than-sound flying jet plane in trouble will soon be fully automatic. The latest addition to the ejection method is an automatic safety-belt unfastener which operates 5 seconds after the pilot and his seat have been shot 60 feet out of the plane. As the pilot and his seat leave the plane, a cord attached to the floor is pulled. This sets off a small charge of powder with a 5-second burning time. When the powder explodes, it automatically opens the belt. To be ejected from the plane, freed of his seat, and in a position for the parachute to open at the required altitude, all the pilot has to do is pull a protective curtain down over his face. This starts the entire operation.—*Science News Letter.*

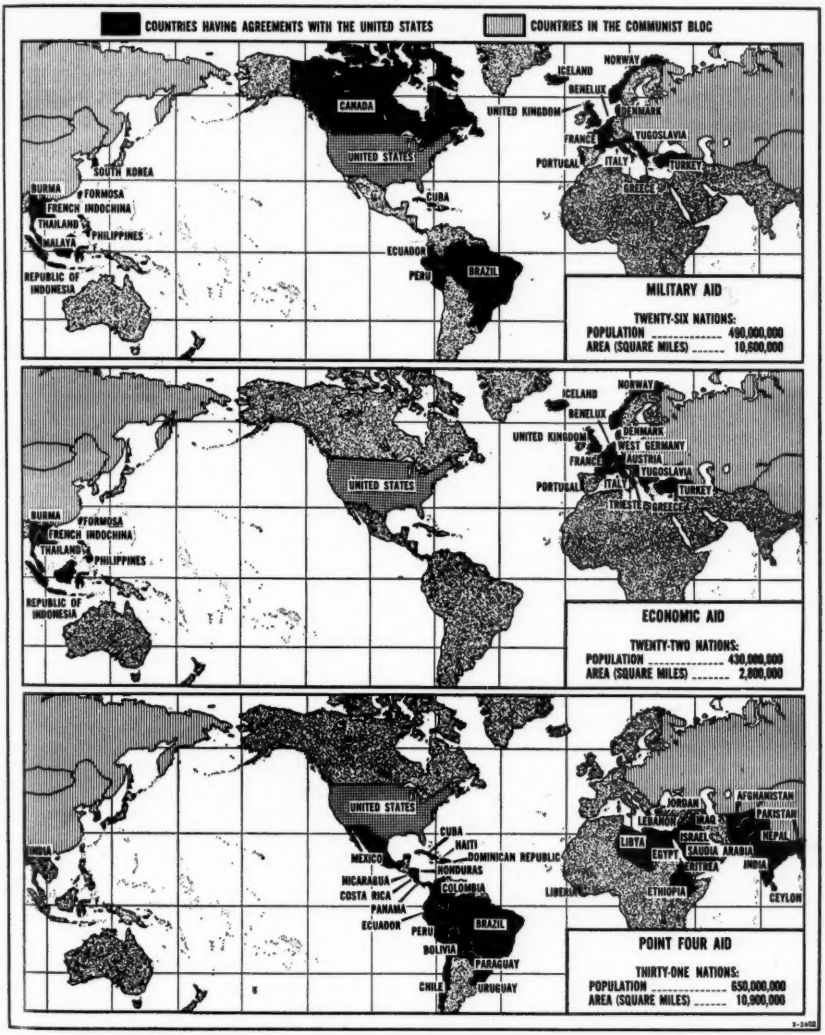
Officer Candidates

About 500 men will be funneled into the Navy's officer candidate program monthly under a newly accelerated plan which will give the Navy an additional 6,000 junior officers annually. The step-up marks an increase of about 200 men each month.—*Army Navy Air Force Journal.*

Guided Missile

The Navy has announced that it has developed a guided missile that will seek out and destroy an enemy plane 3 to 4 miles away. Called the *Sparrow,* the missile in its present form is fired from a plane, but the Navy is working on a ground-to-air version.—News release.

United States Foreign Aid Agreements—The Three Forms



The United States Mutual Security Program has three basic components: Military Aid, primarily in the form of equipment; Economic Aid, consisting of raw materials, commodities, and various types of machinery; and Point Four Aid, involving economic and technical assistance. These three maps show the countries which are now receiving this aid.

MALAYA

Salvage Project

Work has started on salvaging the wreck of the liner *Empress of Asia*, sunk by Japanese bombers in January 1942, while carrying British reinforcements to Singapore.—News release.

LUXEMBOURG

Plan Integrated Army

The Foreign Minister has announced that the Government plans to integrate the tiny Luxembourg Army into the Belgian armed forces.—News release.

BRAZIL

Record Budgetry Surplus

Last year, the Brazilian Government registered the largest budgetry surplus in its history.—*The Christian Science Monitor.*

Rubber Production

The President of Brazil has issued an executive order requiring all rubber industrialists to plow back 20 percent of their profits into rubber tree growing.

The order is the result of increased consumption over the production of crude rubber in Brazil. In 1951, consumption so far outstripped rubber production that the country had to import 9,500 tons of rubber, plus 170,000 tires.—*The New York Times.*

UNION OF SOUTH AFRICA

Uranium Production

The Union of South Africa has started the production of uranium under a program jointly sponsored by the United States and Great Britain.—News release.

PAKISTAN

Armaments Corporation

The Finance Minister has announced that the Government is setting up a 30-million-dollar armaments corporation to make Pakistan independent of foreign arms.—News release.

CHINA

United States Advisory Group

The United States plans to double its military advisory group in Formosa this year to speed the training of 500,000 troops for the defense of that Nationalist Chinese stronghold.—News release.

WESTERN GERMANY

German Generals

The Defense Commissioner of Western Germany has announced that only 36 of 1,500 former German generals "at the most" would be called to serve in a European army.—News release.

Civil Aviation

Western Germany can now build its own airports, free of allied control, and is planning European and trans-Atlantic airlines. The Federal Traffic Ministry has announced that the Allied Civil Aviation Board has lifted restrictions on German building of airports and given the Germans a bigger role in control of civil air traffic. The re-establishment of German airlines must await the conclusion of the allied-German "peace contract," which will give Western Germany greater independence in return for help in defending the West.—News release.

Passenger Decks

Two West German shipping lines have announced that they will build passenger decks into their new freight ships, in order to help meet the shortage of German passenger ships. The two companies have 31 new ships on order.—News release.

BURMA

United States Aid

Burma has received more than 3½ million dollars worth of aid, in the form of goods, from the United States. The shipments included such items as scientific equipment, tractors, plows, and health supplies.—News release.

TURKEY

Trade Pact Concluded

A new trade pact between Turkey and the Federal German Republic was signed recently in Ankara. The agreement provided for the development of commercial exchange between the two countries within the framework of the European Payments Union and in conformity with the existing and future rulings of the Organization for European Economic Co-operation.—Turkish Information Office.

CANADA

Defense Budget

Canada's defense program will receive 48½ percent of the country's budget for the year 1952-53.—News release.

Ponchos

Rubberized ponchos, designed to provide a combination rainproof garment and small shelter for Canadian soldiers, are being issued to troops in Europe and the Far East to replace the familiar ground sheet of World War II.—*Canadian Army Journal.*

Nickel and Zinc Deposits

New nickel and zinc deposits have been discovered in eastern Canada, and will be developed jointly by private industry and the Government.—News release.

RUMANIA

Defense Budget

Communist Rumania's Parliament has approved a 1952 budget calling for an increase in defense expenditures. The new budget provides 16.4 percent of the country's total expenditures for defense, compared with 15.8 percent last year.

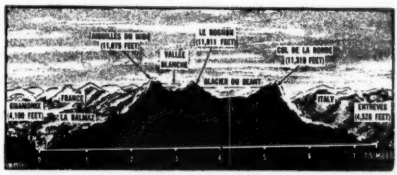
Western observers believe, however, that large expenditures for expansion of the country's armament industries were concealed in the budget item for "development of the economy," which will receive 52.6 percent of the appropriation.—News release.

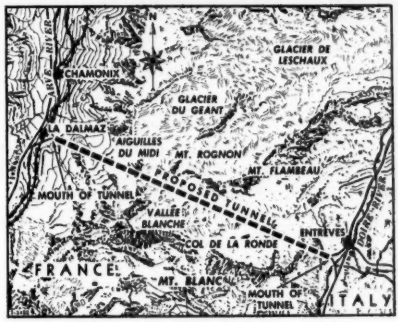
FRANCE

Alpine Tunnel

Work has started on a 7½-mile tunnel under Mont Blanc to link France and Italy. Of great importance to Western defense, the tunnel will bring the industrial centers of northern Italy days closer to Western Europe.

The 26-feet-wide, two-way tunnel will





run straight through Mont Blanc, with the French entrance at La Dalmaz, and the Italian entrance at Entrèves.

France, Italy, and Switzerland will share the cost of the tunnel, estimated at $18,648,000. It is expected to be completed by 1956.—News release.

Rhine-Rhone Link Studied

French authorities have announced plans for an international canal linking the Rhine and Rhone Rivers to provide a 1,300-mile water route between northern and southern Europe. The canal would be between 90 and 120 miles long, linking the 700-mile Rhine and the 500-mile Rhone in Switzerland, where both rivers start.—News release.

JAPAN

Diplomatic Relations

Japan recently accepted Yugoslavia's proposal to end the state of war between the two countries and resume normal diplomatic relations.—News release.

INDONESIA

Trade Agreement

Indonesia has agreed to sell the United States 18,000 tons of scarce tin annually for the next 3 years.—News release.

NORWAY

Power Output

Another 150,000 kilowatts were added to the capacity of Norwegian hydroelectric power plants during 1951, or 3,000 kilowatts more than called for in the blueprint for development of the country's economic resources. Despite prolonged water shortages in many parts of the country, Norway's total production of electricity rose to 18 billion kilowatt hours, a gain of 3 billion kilowatt hours since 1949.—Norwegian Information Service.

Construction Projects

The Defense Minister has announced that under the so-called infrastructure program Norway will build a new air base and expand six present airfields at a cost of 246 million kroner. Calling for the construction of telecommunications and North Atlantic Treaty Organization headquarters, in addition to airfields, the infrastructure program for Norway will cost a total of 277.6 million kroner.—Norwegian Information Service.

LIBYA

Summer Capital

The King of Libya and his Ministers recently announced that Bengazi would be the country's summer capital—from April to October. The rest of the year, Tripoli will be the capital. The action becomes effective in October.—News release.

GREAT BRITAIN

Atomic Submarine Data

Britain and the United States are pooling results of research on atomic propulsion for submarines, as well as other scientific developments.—News release.

Air Raid Shelters

Britain will spend $232,400 during the current fiscal year on underground air raid shelters.—News release.

Oil Production

Oil production in the British Commonwealth climbed last year almost 30 percent over 1950, and the total—15 million tons—was more than treble the figure of 5 years ago. The leading single Commonwealth producer was Canada, whose 6½ million tons placed her for the first time ahead of British Borneo, which supplied 5 million tons. The sharp rise in Canadian output was due to the opening of a 1,000-mile pipe line from Alberta to the Great Lakes. This made it possible for the first time to pump Alberta's oil in bulk to Canada's main oil-consuming area in the east.—News release.

Caribbean Force

Britain plans to raise two battalions of colonial troops in the West Indies for service "anywhere in the Caribbean." These units will replace a single battalion on Jamaica for local service only.—*The New York Times.*

Arctic Cruise

Two Royal Navy submarines will sail shortly to the Arctic to enable naval scientists to find out more about this area of great potential strategic importance. The tests will investigate and record data concerning the behavior of ships, aircraft, weapons and equipment, and, most important of all, the endurance of men exposed for long periods to extreme cold.—British Information Services.

ITALY

Battleship Raised

The old Italian battleship *Cavour*, sunk at the head of the Adriatic by allied bombs in World War II, recently was raised and hauled ashore after a year long salvage job. The vessel will be broken up for scrap.—News release.

AUSTRALIA

Bauxite Deposits

Millions of tons of bauxite—aluminum ore—have been discovered in a 10-square-mile area of Arnhem Land in northern Australia.—News release.

Women's Officer Cadet School

Australia will establish a Women's Officer Cadet School to provide young officers for the Women's Royal Australian Army Corps (WRAAC). This is the result of an urgent need for young women officers for the expanded Regular Army establishment of the WRAAC and for cadres for its projected Citizen Military Forces units. Very few women officers with wartime service in the former Army's Women's Services are now available or eligible for the WRAAC.—*Australian Weekly Review.*

Fighter Wing

Australia will send an RAAF fighter wing to the Middle East this month to join the Royal Air Force in that area. Up to the present time, Britain has borne the entire burden of providing garrison forces for the important Middle East area.—*Australian Weekly Review.*

Salvage Operation

An Australian salvage company plans to raise the 17,500-ton United States liner *President Coolidge*, which was sunk off the New Hebrides in 1942. The raising of the liner, which was sunk by a mine while carrying reinforcements to Guadalcanal, will be the biggest salvage job ever attempted in the South Pacific.—News release.

FINLAND

Fighter-Trainer

A two-seat fighter-trainer, the Valmet *Vihuri*, is the first military aircraft designed and built in Finland since the war. Produced by the Valtion Metallitehtaat Lentekenetehtaat at Tampere, it is now

The Valmet *Vihuri* fighter-trainer.

undergoing test flights for the Finnish Air Force. Equipped with an 830-horsepower engine, it has a maximum speed of 273 miles an hour, a diving speed of 403.9 miles an hour, and a cruising speed of 217 miles an hour. It has a wing span of 34 feet 1 inch, and a length of 27 feet 6 inches.—*Aviation Age.*

Trade Pact

The Finnish Government recently announced that it had established a trading arrangement with Communist China.—*The New York Times.*

KOREA

All-Nylon Combat Vest

United States troops in Korea are testing an all-nylon lightweight armored vest that weighs 7 or 8 pounds, about half the weight of metal alloy vests. Previously, nylon vests containing protective inserts of lightweight metal were tried. The latest vest is designed as protection against mortar, grenade, and shell fragments, which normally account for 60 to 80 percent of combat wounds.—News release.

NEW ZEALAND

Naval Vessels

The Australian Government has made a gift to the New Zealand Government of four fleet minesweepers. The ships, at present in reserve in Australia, will be sailed to New Zealand by Royal New Zealand Navy crews. They then will be modernized and equipped to deal with all types of mines, including those of the latest design.—*Australian Weekly Review.*

THE NETHERLANDS

Railroad Reconstruction

The Netherlands' railroads, which were virtually destroyed in World War II, have been about 80 percent reconstructed.—*The New York Times.*

Shipbuilding Project

The first shipbuilding project under the United States offshore procurement program was launched recently with the signing of an agreement for the construction of 18 coastal minesweepers for the Royal Netherlands Navy at a cost of about 26 million dollars. The Netherlands has agreed to build another 14 of these vessels with 16¼ million dollars in counterpart funds to meet her commitments to the North Atlantic Treaty Organization. The minesweepers, the construction of which is scheduled to take 3 years, will be of Dutch design, modeled on a British type that has been approved by NATO.—*The New York Times.*

INDOCHINA

Military Advisers

Communist Chinese military advisers and technicians appear to be coming into Indochina in steadily increasing numbers to back up the Communist-led Vietminh forces. French and foreign intelligence sources now estimate that there are about 10,000 Communist Chinese aiding the Vietminh forces; an increase of 4,000 within 5 months.—News release.

COMMUNIST CHINA

Fighter Planes

The Peiping radio has announced that Communist China's Air Force will have 3,449 new fighter planes as a result of public donations in a recent "Resist America—Aid Korea" appeal.—*The Aeroplane,* Great Britain.

ARGENTINA

Polar Base

The Naval Ministry has announced the establishment of a new permanent Argentine observation base in the Antarctic. The base, on the northeastern tip of Palmer Peninsula (Graham Land), has been named *Esperanza.*—*The New York Times.*

Electric Power

Argentina has intensified its program of rationing electric power under President Juan Peron's austerity program for 1952. Electricity rationing, which previously included a ban on many commercial uses as well as dimming of street lights, now has been extended to industries and private homes.—News release.

USSR

Budget Voted

The largest budget in the history of the Soviet Union was adopted recently by the Supreme Soviet, the country's Parliament. The budget calls for expenditures of about 119 billion dollars, of which 23.8 percent will be spent for defense.—News release.

POLAND

World Police Commission

Communist Poland has withdrawn from the International Criminal Police Commission—which co-ordinates police action throughout the world—following similar action by Czechoslovakia last December. No reason was given for the withdrawal, which virtually ends police co-operation with countries east of the Iron Curtain.—News release.

FOREIGN MILITARY DIGESTS

Communism and Cold War Policies

Digested by the MILITARY REVIEW from an article by Commander S. Le H. Lombard-Hobson in the "Journal of the Royal United Service Institution" (Great Britain) November 1951.

FOR nearly 2,000 years, European civilization has rested upon a contradiction between, on the one hand, a philosophy and religion which teaches that all men are brothers; and, on the other, an economic system which necessarily organizes them as masters and servants. In almost every century, men have sought to resolve this contradiction by demanding a readjustment of the social order, but such schemes as they put forward did not rest on any just appreciation of the part which man plays in creating that order.

The church, whose influence was unchallenged throughout the Middle Ages, sought to temper the hardship caused by inequalities of wealth, by enjoining on the rich the Christian duty of helping the poor. By such a system of private charity, the extremes of wealth and poverty were largely avoided in Western Europe for many centuries.

An enormous change was introduced by the Industrial Revolution which, by bringing together in cities large numbers of people, and by concentrating the various economic classes of the community in separate groups, rendered private charity largely impracticable, and greatly lessened the sympathy and bonds that had existed between classes under the old feudal system. It was in this moral vacuum, caused by the failure of organized religion to contend with the social problems of industrialism, that there grew up a number of ideas which have produced modern socialism in all its various forms.

Philosophers in the early nineteenth century claimed to show how the old order had to come about, and how its eventual change could improve the lot of the industrial worker of the day. Their theory brought about the largest mass movement since the rise of Christianity. The practice of this philosophy today is the greatest subversive force in the modern world; though it took a revolution in one country—Russia—to make the world aware of it. The chief founder of this philosophy was Karl Marx.

Marx and Engels

During the early years, Marx worked as a student in Germany, studying the obscure philosophy of Hegel. Later, he moved to Paris to study socialism. It was here that he met Engels, a Rhinelander like himself, who, in his studies of philosophy, had arrived at much the same conclusions as Marx. Thus was laid the foundation of perhaps the most important literary partnership of all time. Engels

had made a deep study of British conditions; Marx a study of the German. From 1845 they worked together on writing the *Communist Manifesto* and *Das Kapital.*

The *Communist Manifesto* was first published in 1848, and is the basic creed of all Socialists. It was translated into several languages, including English; but it was not until it had been written in Russian, at the end of the nineteenth century, that its doctrine was applied to any country at national level, as was done in Russia.

Socialism and Communism Defined

At this stage, I must make it clear what I mean by socialism and communism. There is probably no word in any language that is so hackneyed and prostituted as the word communism, and there are many popular interpretations of the word socialism. In actual fact, as I hope to show, there is no such person as a Communist anywhere, yet. I shall, therefore, stick to the original meaning of these two "isms," as defined by Marx.

Communism aims ultimately at eliminating private property and at creating a classless society in which everything is owned by the community. This goal, it maintains, cannot be achieved in one step; and between the revolution abolishing the Capitalist order and the achievement of this Communist society, there lies a transitional period known as the "dictatorship of the *proletariat.*" This transitional stage is known as socialism; and it is through this phase that many countries, in some form or other, are now passing. Communism is the "highest stage of socialism" and its attainment still lies in the future. Nowhere on earth has this yet been achieved, except possibly, through force of circumstances, among the Eskimos.

According to Marx, the first target in the attainment of this ultimate utopia of communism is the destruction of the *bourgeoisie*—the employers of labor. He argued that they can be displaced from their controlling positions only by the capture of the apparatus of state by the *proletariat,* and the setting up of the "dictatorship of the *proletariat.*" In time then, the *bourgeoisie* is to disappear from society, leaving a classless community of *proletarian* workers. When this happens, says Marx, the state—an instrument of coercion and oppression—"will wither away," leaving the entire world in the utopian condition of fully achieved communism.

It is largely in the belief in the inevitable triumph of communism that the strength of this revolutionary movement lies. It has instilled in its followers the sense of having a mission—the feeling that they are the carriers of a superior philosophy. This philosophy has acquired a great appeal as an alternative social order in the world, and has assumed a spiritual value which may be compared with the great religions. Indeed, for its followers, it has the value of a religion in that it offers to life a sense of purpose, and holds out hopes of personal betterment in *this* world rather than rewards in the *next.*

I am never quite sure what it is in the Marxist gospel that is so appealing to both intellectual and worker alike. To the former, there is, I suppose, logic to be found in its theories of a dialectical and historical materialism, of political economy, and of the state and revolution. To the nonintellectual, however, I believe the attraction lies in the easily perceived driving force behind the whole movement—in one word—hatred. Marx appears to offer to those who bear a grudge against the world, or their fellow beings, a chance to "get their own back"; and it is this desire, for the satisfaction of revenge, that is so appealing to these followers of the revolutionary practices of socialism.

Whether we like it or not, whether it is for ultimate good or for evil, Marxism, socialism, communism, or whatever else

you like to call it is fundamentally as old as history, and it is here to stay in some form or another. It has been put into words by Marx and Engels; it is all part of the evolution of human society, though at this time it may appear as a revolution.

Evolution of Socialism in Russia

There is about the history of Russia a pattern of alternatively extreme orthodox conservatism and violent revolution. Between these periods of violent change, there have been long periods of autocracy which have effectively suppressed all reform and thought. Such a period of conservatism prevailed in Russia throughout the nineteenth century, and was little changed since its introduction by Peter the Great in 1689. However, during the nineteenth century, Russia began to develop a tremendous mental and spiritual vigor; the population increased fast; and Russian culture and art developed rapidly. In the field of political philosophy, the Russian mind was equally active; but here it was rigidly suppressed by the autocratic governments of the Czars.

It was not until the beginning of the twentieth century that the Marxist doctrines penetrated to the Russian people, who were thus the last people in Europe to receive them; and so they cannot be called the founders of revolutionary socialism. The revolutionaries, or Bolsheviks, who in the main were intellectuals and not workers, sought to achieve this reform by violent means. Another party, called Mensheviks, attempted to use constitutional means to achieve the same end. Among the former was one Nikolai Lenin, whose genius lay in his leadership of the uneducated workers and peasants along the path advocated by Marx. Lenin's chance was provided by the exhaustion of Russia in World War I, which resulted in the overthrow of the Imperial Government in the February Revolution of 1917, and the capture of the apparatus of state by the Bolshevik-led *proletariat*.

Early Corruption of Marxism in Russia

However much we may dislike their doctrines and methods, I have little reason to doubt that the original leaders of the Russian Revolution and their Socialist sympathizers in the rest of Europe were animated by respectable motives, by a determination to improve the lot of the poor, and to redress the inequalities of society that had existed in Czarist days. After all, there is nothing but good in the Marxist slogan of—"From each according to his ability; to each according to his need." In fact, it can be described as a thoroughly Christian principle. It is the corruption, abuse, and distortion of these social principles that is the chief cause of world unrest today.

The Marxist theory of extending Communist inspiration to all countries of the world was soon twisted into a policy designed to extend Russian influence to cover the world, by means of Socialist revolution in successive countries. This policy Stalin implemented, and, at the same time, he acquired and exercised undisputed dictatorship over the controlling party—a dictatorship that soon came to be regarded as the central requisite of policy, with the corollary that all opposition must be ruthlessly liquidated and destroyed.

The effect of all this on the so-called "dictatorship of the *proletariat*" was not to weaken the authority of the state, as foreseen by Marx, but immeasurably to strengthen it, by changing the character of the Party and converting it into a centralized and all-powerful bureaucracy. What in actual fact was achieved was the dictatorship, not of the *proletariat*, but of a compact party claiming to represent the *proletariat*. The early years of Socialist power in Russia were devoted to the consolidation of this dictatorship, rather than to the furtherance of Marxist principles.

Although the Cominform proclaims today that everything it does is dictated by the Communist doctrines of dialectical materialism and the dictatorship of the

proletariat, and by its high-minded determination to protect the people from Capitalistic imperialism, it has, in fact, become a plain struggle for the retention of personal power by a small group of men whose loyalties to each other probably derive more than anything else from fear of liquidation, which must necessarily follow either loss of power, or detection in any individualistic ventures. However, having once obtained power, Stalin and his associates, true to the historic forms of tyranny, are unable or unwilling to be content with that; and it is as certain as anything in human nature can be that the motive, at present predominant in their minds, is the destruction of all other competing forms of government and economy, with a view to obtaining domination of the world from Moscow.

Stalin's Application of Marxism

With this ultimate aim in view, Stalin at first applied a very twisted and corrupted version of Marxism to the conduct of Russian home affairs. His policy of "socialism in one country" was intended to turn Soviet Russia into the bastion of Marx's world revolutionary movement. From this newly found Socialist state, other countries, one by one, were no doubt intended to take their lead; until, finally, the entire world could pass from a state of socialism into the utopian condition of fully achieved communism with its supreme direction coming from the Kremlin. This in itself, however, is a complete contradiction of Marx's definition of communism.

Nevertheless, Stalin claimed that the world was divided between two hostile camps—the camp of socialism, and that of capitalism. The Capitalist camp, he said, might at times be divided against itself; but all its members were fundamentally hostile to the Russian state. In the struggle between these two ways of life, he portrayed the Soviet camp as representing the young, rising, and progressive forces of society, who would eventually prevail. This victory, he stated, would neither come quickly, nor of its own accord. Capitalism could only be overthrown by means of revolution which would take the form of protracted internal struggle and conflict over a long period of years. In many ways, this is going on now.

Stalin argued that the weakness and contradictions within the Capitalist system must be fully exploited, so that these states fought among themselves, thus bringing about their own eventual destruction. In the Far East, Southeast Asia, and in Africa, contradiction in the racial aspect was the most stressed, because, in these parts, resentment was bitterest against the controlling white races. In Europe and America, the class-war theme was to be used as the main instrument of political disruption and class prejudice.

Failure of Marxism

This policy could, perhaps, have been pursued in a state that was itself strong enough to exert the necessary direction and influence over other nations. Russia, however, was in no condition to act in this way. It was probably the growing military strength of Germany and Japan in the middle twenties that made Stalin first realize that his policy of "socialism in one country" was no counter to the growing menace of strong nationalist movements in these two countries close on his western and eastern frontiers.

It is now becoming the considered opinion of many who have made a study of recent Soviet policy that Stalin saw the writing on the wall in February 1931, when, in a notable speech from the Kremlin, he said: "We are 50 to 100 years behind the Western powers; we must either catch up in 10 years, or we perish." Under socialism, he realized that this could not be done, and from that date he largely dropped the doctrine of Marx at home as the means of advancing the power position

of Russia in a world of change and competition.

This was not to mean that he had decided to drop the practice of Socialist revolution altogether; on the contrary, he has since made it clear that he had no intention of losing the sympathy that was accorded to Russia as the first country to apply the experiment of Marxism at national level. In order to maintain the support of his external sympathizers in the world, he limited his pursuit of Marxist doctrine to foreign policy; while at home he returned to a rule which, in its method, was indistinguishable from that of the Czars who had preceded him.

Soviet apologists, I know, say that all this was merely tactical deviation from basic Marxist strategy, made necessary for military defense against encirclement by the hostile Capitalist world. This, of course, is sheer nonsense. What had happened was that the old Russian rule had returned with all its former characteristics—the personal autocrat; the highly centralized bureaucracy; the powerful secret police; and the elaborate isolation from foreign influences.

Soviet Policy Today

I think we must now consider what are the Soviet aims today, viewed from a background of the change in Russian plans that I have tried to describe. I believe Soviet policy to be based on a short-term aim and a long-term aim—primarily, security of the Soviet Union; eventually, world domination. Let me take these two aims separately.

Short-Term Aim

Throughout history, Russia has been subject to invasion all along her vast perimeter. For centuries now, the Russian people have been brought up to believe that their country was in constant danger of being attacked. Indeed, looking back through the ages, they have every justification for these fears. That the Western powers might, just now, be incapable of aggression is quite outside the grasp of any Soviet citizen today. This is possibly understandable when you recall that only 6 years ago we had millions of men in the field; we had huge fleets at sea; we had overwhelming power in the air; and, not least, we had the means to mount that vast armada we called *Overlord*. I believe this last achievement impressed the Soviet people more than anything else that happened during the last war.

The constant fear of attack largely explains the traditional Russian urge to expand to the sea coasts of the Eurasian land-mass. Stalin has said: "Throughout history, Russia has time and again been defeated, because of her backwardness and because of her geography. Lack of natural frontiers has always been a serious handicap." Insofar as the short-term aim is concerned, I think this further explains the reason for the Soviet Union today having surrounded herself with a protective belt of satellite countries. Metropolitan Russia now can hardly be attacked without warning from one of the satellite buffer states.

Long-Term Aim

Although Stalin may have proved the failure of Socialist policy in his own country, either to provide the necessary degree of national security or to advance the cause of the Russian people, I still believe that he looks to the revolutionary movement of Marxism in the free world in order to provide him with the necessary means to achieve his global aim. For reasons that I shall give in a moment, the Soviet leaders do not plan to achieve their long-term aim by conventional military means. They perceive, in the contradictions inherent in the Western way of life, a means of bringing about the self-destruction of free nations. This is to be achieved by Marxist propaganda and with fifth column infiltration designed to stir up trouble between capital and labor every-

where. In other words, the conduct of a psychological and ideological offensive without precipitating total military war.

Soviet Military Role

Before going any further, I must endeavor to answer the obvious question—"Why is the Soviet military machine being maintained at such enormous strength if the Kremlin plans to achieve its global aim without recourse to total war?"

The short-term answer to this is obvious. Any country that considers the security of its territory to be threatened naturally wishes to maintain the largest possible fighting machine, compatible with its economic potential and industrial strength.

In the case, however, of the long-term aim—world domination—some explanation is necessary. I suggest that the reason why the Soviet military machine is being maintained at such enormous strength is because these two factors—size of war machine and aggressive conduct—are intended as the chief weapons of the Soviet leaders in waging this new type of offensive. By their aggressive behavior, they keep up a constant fear of war; by displaying so large a war machine, they hope to force Western countries to attempt a balance of power by themselves building vastly expensive armaments—as we now are doing. Both of these courses have as their object a lowering of the standard of living and, thus, the undermining of moral and economic recovery in the West.

A Soviet Military Offensive?

Although desire for military strength springs originally from fear of attack, it would be quite wrong to turn a blind eye to the possibility of Soviet military superiority being turned to other than defensive purposes. The present Soviet leaders are the heirs of the Russian Czars, and not merely of Marx and Lenin. Russian imperialism has unquestionably replaced international communism as the potent factor in Soviet policy today.

I am prepared to agree that, if Stalin thought he could achieve his global aims quickly and completely by resort to military force, he would not hesitate to release his huge war machine tomorrow. If he did so, his armies might reach the Channel and Biscay ports, from where they could bring weapons of mass destruction to bear against Great Britain, so that the southern half of England would be made impotent. They might, later on, deliver sufficient atomic bombs on our ports and cities, so as to render these islands untenable as an advance American air base, or they might even invade us. They could try all this and, at the same time, launch simultaneous campaigns in several other theaters, and overrun much territory; but they would not have achieved more than a limited aim, and the free world would not be defeated, because the main bastion now of Western democracy—the United States—would still be standing.

In the second place, Stalin is certain to have learned, from the mistakes of the Kaiser and Hitler in two world wars, that once military action is joined, democratic nations unite and fight together with the utmost determination and vigor in order to defeat a common enemy. In a cold or psychological war, a great deal of imagination is needed to unite or mobilize free people to fight against something they cannot see, and which will not touch them physically unless they are defeated by it. Instead, they tend to remain politically disunited and economically divided.

Third, all through history the Russian people have been trained in the need to defend. Their offensive campaigns have never been conspicuously successful. The great victories of the Soviet Union—Poltava, Borodino, and Stalingrad—were all Russian counterparts of our "Battle of Britain," fought in defense of the motherland, deep in the heart of Russia. Today,

all Russian home propaganda is turned to the need for the Soviet armed forces to be strong and ready to meet inevitable attack by the Capitalist powers. I doubt if Soviet or satellite troops would fight well in an offensive or imperialist role outside their own territory.

Finally, Stalin must know all too well that, if he were to provoke total war, he would bring the entire weight of the United States atomic stock pile upon his cities and industries, which are both concentrated and vulnerable. The potential threat of the atom bomb is undoubtedly the "trump card" in the battle of wits today and is the reason why the Soviet leaders are trying so hard to ban its use through the medium of their peace campaign.

Political and Economic Factors

Stalin is fighting the present cold war on his own terms, and with the weapons of his own choosing. He is campaigning as a soldier, not against soldiers but against politicians. The soldier retains his position by the skill he shows in ensuring the safety of his homeland; the politician retains power by his ability to meet public opinion and the immediate demands of his electorate—sometimes at the expense of national security. In a conflict between the two, as is now occurring, the soldier has the advantage every time.

From the economic point of view, Stalin must realize that to start a full-scale war would be to integrate the enormous military potential of the free world against him. In time of peace, the normal economic competition existing between democratic countries prevents the integration of this strength. In the event of total war, however, the closely co-ordinated potential of all the free countries would, in a short time, produce a military machine of such magnitude that the Soviet Union would inevitably be defeated. The recently stepped-up steel output of the United States alone is, in itself, sufficient to warn the Kremlin of the military potential of the free world once provoked.

Possibility of Total War

In the conduct of the revolutionary offensive now launched, the Kremlin is steering a course as closely as possible to a full-scale war, without actually precipitating it. Despite the arguments I have just put forward against the likelihood of a hot war, I think it is most necessary to bear in mind that the present world tension provides conditions in which total war could break out accidentally at any moment.

Then there is the possibility of the United States deciding on a preventive war. There exists, I believe, strong feeling among certain sections of American opinion, particularly on the West Coast, that a third world war is inevitable and that the sooner it is over the better. I suppose such a view is understandable in the case of a young nation that has greatly increased its prestige as a result of two world wars, but which has not yet had to face the horrors of war at home.

In the case of the Soviet Union, however, I maintain it is on the cold war, as we call it, that Stalin has his money; and up to the present he has done pretty well on it. Old age and impatience to see the successful achievement of his life's work might get the better of his prudence; but I think not. He would be mad to upset the successful trend of events by unnecessarily forcing the pace, and thereby risk losing everything.

Rival Aims

We seem to know the Soviet short-term and long-term aims; but I am not sure that we are so well provided in the knowledge of our aim, or our own plan to achieve that aim—whatever it may be. Over a period of the last 6 months, I have kept a note of the various statements of global policy made by the different Western leaders. It is most significant to observe the

widely divergent views held by these leading Western personalities in their attempts to define the aims of the free nations to meet the present great threat to our way of life.

Are we hoping that time will win the cold war for us; are we building up militarily in order to meet a possible hot war; or are we playing right into Russia's hands by thinking we are just fighting communism? On these points, there seems to be considerable confusion of thought existing among Western policy makers.

Aims of the Free World

As I see it, the first task of the free world is to prevent further Soviet expansion. To do this, free nations must endeavor to sink, anyhow for the time being, their political, economic, and military prejudices and differences; Western armaments must be rebuilt sufficient, and *only* sufficient, to prevent any further Soviet-sponsored *coup d'état* or local aggression. This, however, must not be carried to such an extreme that the price of rearmament destroys us economically, which, of course, is the Soviet aim. I would say that a very careful balance in over-all planning and expenditure must be struck here. In addition, the West must retain its lead in, perfect its ability to deliver, and make clear its intention to use, if necessary, the atom bomb.

Concurrently, the West must go over to the psychological and ideological offensive and take on the Soviets at their own game. To do this, an organization on the lines of the Political Warfare Executive of the last war should be recreated; and a full cold war offensive, through the medium of well-trained *émigré* groups and greatly increased British Broadcasting Corporation and Voice of America propaganda programs, should be directed first at the long-suffering satellites and then at the misguided peoples of the Soviet Union.

I think time is on our side. This, however, will only be the case so long as we know the nature of the threat, and have confidence in our plans to meet that threat.

Threat of Communism

As for supposing that we are at war with communism—I think that this is very dangerous; and it is unfortunate that this misleading notion is so frequently expressed. Such an idea completely fogs the main issue. Stalin has been very clever in implanting in our minds the idea that Soviet activities are concerned with communism, or any other lofty ideals of human betterment or brotherhood.

The overthrow of Czarism in the early part of this century certainly evoked a great wave of sympathy throughout the entire free world; and the evangelical zeal of the first Russian experiments inspired people in other countries with deep interest in this social child of a new era. However, the subsequent subtle reversion to cynical Soviet imperialism has been hidden by a smoke screen of so-called Communist Parties, which have been made to use every noble thought and every normal human desire in order to further the Soviet campaign of expansion. The result is that there persists in the minds of many people in all countries the feeling that, in resisting Soviet policy, they are not quite on sound moral grounds. In countering Soviet cold war imperialism, and in denouncing the Moscow-inspired peace campaign, we are made to appear to be fighting against ideals of brotherhood and unselfishness; while all the time, behind this diversion, the Soviet leaders pursue their relentless purpose.

The immediate cause of world tension is Soviet cold war imperialism, which seeks to use the idea of communism as its chief tool; you cannot be at war against the weapon, but only with the men who wield it. At any rate, it hardly makes sense to say that we are at war with communism, when the Communist Party is fully recog-

nized in the Parliament of this country; when, until very recently, the largest single party in the French Government has been the Communist Party; and when so-called Communists, in all levels of society, are necessarily allowed freedom of action in the majority of countries of the free world. In addition, it is not inconceivable that we might, one day, have to go to war to defend a so-called Communist state—Yugoslavia—from Soviet aggression.

I do not wish to minimize the tyranny of Marx, which is both great and well established. However, I have tried to present it in its proper perspective; and thereby emphasize what I am sure is the more pressing and greater danger—the tyranny of Stalin.

Conclusions

The world is undergoing the slow process of a major social upheaval, which started at the time of the Industrial Revolution, and which has been accelerated by two world wars.

The roots of this are well established in the teachings of Marxism, socialism, and communism—or whatever you like to call it.

The solution of this world revolution lies not in military rearmament, but in some form of religious or moral rearmament; and thus the display of a superior way of life. This might take centuries to achieve, but it should be our long-term aim.

But riding uninvited on this tidal wave of social change is the Kremlin, posing as the champion of revolutionary socialism, while all the time practicing a policy at home which, although professing socialism, is the complete antithesis of it.

The Kremlin is, today, giving lip-worship to the principles of revolutionary socialism chiefly for export purposes in order to bring about the political and economic destruction of all opposing countries, with a view to obtaining Soviet world domination. In this Marxist disguise, it has introduced a completely new concept of global war, which it is now relentlessly waging against the free nations of the world. It is to counter this existing psychological onslaught that the Western powers must primarily make their plans, rather than seek sanctuary in military rearmament to meet a possible future war fought in the old style.

Further Soviet territorial advance must be halted by strictly limited Western rearmament; concurrently, the West must go over to the psychological and ideological offensive, and so take on the Soviets at their own game.

No summary of the military outlook would be complete without facing the inevitable question: If the Soviet Union and her satellites really have the intention of conquering the free world, why haven't they attacked before this?

They have attacked and are attacking every day—by any means they consider advantageous. In the cold war, they have taken advantage of our free press, free speech, and free economy. They have used our freedoms, and our support of freedoms, as modes of attack. Every medium has been used to spread the Communist line.

General of the Army Omar N. Bradley

The Atomic Weapon Is Two-Edged

Translated and digested by the MILITARY REVIEW from an article by Lieutenant Colonel F. O. Miksche in "Militaer Orientering" (Norway) 25 February 1952.

IF WAR began tomorrow, would the Red Army's first strategic move be to advance across Western Europe to Gibraltar and through the Middle East to Suez in order to drive the Atlantic powers out of Europe? Would an allied offensive against cities and industrial centers in the Soviet Union be able to prevent such a development? We must remember that, in an air war, one must strike the enemy in the right place and at the right time. To be able to carry out such strategy, one must obtain rapid and accurate information about the enemy.

Rediscovering the Soviet Union

For 30 years, the Soviet Union has been completely shut off from the rest of the world, just as Tibet was in its time. The Communist propaganda tells, from time to time, of new cities and industrial regions which have arisen, but we know nothing about them. To tell the truth, we do not even know that these cities really exist. We know almost as little about the Soviet Union, today, as we knew of Africa in Livingston's time, when caravans reaching the coast told of cities and mighty rivers and lakes which no white man had seen. To be able to carry out an attack on industrial regions in the Asiatic Soviet Union, we would have to rediscover Siberia—and that would not be an easy task.

This is the reason why the Soviet Union has taken all imaginable precautions against industrial espionage.

Industry Is Decentralized

The industry of the Soviet Union is decentralized. This is a factor which would make it difficult to carry out an effective air war against the country. The air offensive against Germany in the last war was directed against a country with a concentrated economic structure, and where the flying distances were relatively short. The longer the flying distance, the more difficult it is to obtain good results and maintain intensity and continuity in attacks.

The flying distance from the Middle East to the industrial regions of the Urals is from 1,550 to 2,200 miles and the distance from England to the Moscow area is not much less. Therefore, this is a thing that must be considered when one talks of a strategic air war against the Soviet Union.

Time an Important Factor

Such an offensive would, without a doubt, do a great amount of damage, but the results would not be noticeable on the fronts in Europe and Asia for many months. In other words, an atomic war would hardly be able to prevent the Soviet Union from marching into Europe and the Middle East, even if the communication centers in Poland, Germany, Belgium, and France were attacked. In addition, the Continent, in such a case, would have to pay the price for the United States' atomic war, and, in the end, there would hardly be anything that would be worth liberating again.

England has always carried on regular commerce with the rest of the world. Consequently, it is generally known where her industries are located. Such knowledge has, as a matter of fact, never been regarded as a military secret. Detailed maps are on open sale and the Soviets have, without a doubt, secured a supply of them.

Every overt attempt sets off a counter attempt. He who fires on an enemy with a new weapon must expect that the same weapon also will be used against him.

Seeing that the American atomic potential could not prevent the Soviets from moving into Western Europe, the Channel coast would again be occupied by a hostile state. It is barely 100 miles from Calais to London, a city of 7 million inhabitants, and only about 200 miles to the densely populated industrial regions of central England.

With such a short flying distance, it would not be necessary to engage aircraft, for rockets would be able to reach all objectives in England; a situation which would make it considerably easier to maintain continuity in the attack. The result would be what we have stated above: the Continent would have to pay the price for the Americans' atomic war, and England would become a sacrifice to the Soviet-Union's revenge.

The United States Is Vulnerable

The United States, itself, would not escape the destruction of an atomic war. It is quite true that the distance from the Soviet air bases involved would make the situation less tragic for the Americans, but isolated attacks with the Soviet's "weak" atom bombs would, however, cause more devastation among the skyscrapers of San Francisco, Baltimore, and Chicago, than the Americans' "powerful" atom bombs could cause in Krasnodar, Taganrog, Sevastopol, or the straggling cities on the thinly populated Russian steppes.

The situation would be quite different if the Americans really manage to manufacture suitable tactical atomic weapons, such as we hear so much about nowadays. Atomic artillery and small atom bombs would completely revolutionize the Western powers' tactics. They would create a situation like that which would have arisen if Wellington's men had mowed down Napoleon's grenadiers and Marshal Ney's cuirassiers with automatic weapons, as they attacked in compact columns at Waterloo.

Tactical atomic weapons could possibly make it impossible for the Soviet Union to invade Western Europe.

History's Greatest Two-Edged Sword

There arises here, however, still, a serious question which no one today can answer. Would not the Kremlin, which today demands an outlawing of all atomic weapons, reply to the West's tactical atomic warfare with a strategic atomic war directed mainly against England? Moreover, how long will the West be able to maintain its lead in this field? It is equally true, from whatever angle we view it, that the atomic weapon is, perhaps, history's greatest two-edged sword.

If we do not solve the strategic problems which will present themselves in an eventual war, we run the enormous risk that the use of the atom bomb will destroy civilization, and instead of living in the atomic age, we should have to turn back to the stone age.

Conclusions

It is clear that we would lose more than we gained by the use of the atom bomb. The only sensible thing to do is to hope that no one will resort to it, and that eventually the stock piles of atomic weapons will be dumped into the ocean, as were the poison gases of World War I. The fact that the West, today, has atom bombs has only one justification—namely, that it can hinder the East from using atom bombs in case of war.

Give the Army Wings

Digested by the MILITARY REVIEW from an article by John W. R. Taylor in "The Royal Air Force Quarterly" (Great Britain) January 1952.

NEARLY a century ago, the veteran United States Cavalry General Nathan Bedford Forrest gave his simple, forthright formula for winning battles—"Git thar fustest with the mostest." Nowadays, we prefer to use more sophisticated expressions like "logistics," "portability," and "tactical superiority," but they add up to the same thing, as we discovered in World War II, when, all too frequently, we lost battles because we arrived too late with too little.

In General Forrest's day, the key to speed in war was the horse; today it is airborne horsepower. The Germans knew this when they sent plane-loads of paratroopers to capture Crete in 1941. Then they forgot it, and used their *elite*, highly specialized parachute formations as infantry in North Africa and on the Eastern and Western fronts, where they were overwhelmed and destroyed just like any other infantry.

Mobile Units Required

The moral of all this is clear and *must* be understood by a country such as ours, which has neither the money nor the temperament to raise a large volunteer army in peacetime. Western Europe can never hope to match, man for man, the vast, threatening armies of the East. The best hope of successful defense is to station minimum holding forces everywhere, backed up by small, highly trained, superbly equipped, mobile units, ready for battle *immediately* wherever a breakthrough threatens.

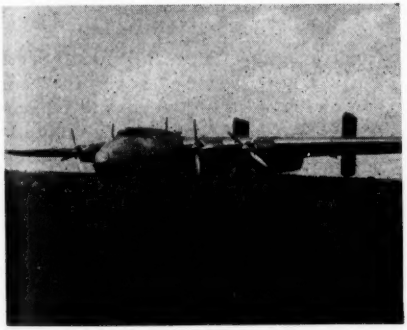
Moreover, such an organization is useful not only in a major war. The last few years have shown that trouble can break out at any time in any or all of a dozen places scattered throughout the world; for example, we already have sizeable wars on our hands in Korea, Malaya, and Indochina. Obviously, we cannot maintain large garrisons everywhere to deal with such outbreaks. The answer once more is to have small garrisons, backed up by powerfully armed, mobile battle groups. *And the only way to get those battle groups where they are needed in time to avert disaster is by air.*

Therefore, the Transport Command of the Royal Air Force is, or *should* be, one of the most important operational units of our defense forces. Ironically, this organization suffered most in the reorganization of the Royal Air Force a couple of years ago, when, instead of ordering newer and better aircraft for the Transport Command, the Government cut back or cancelled contracts that had been placed for existing types. This happened less than a year after the Transport Command had helped to win a major victory in the cold war against communism by its magnificent work on the Berlin Airlift. This proved conclusively that little notice was being taken of the vital lessons of the airlift.

Lessons of the Airlift

Most important of these lessons is that air power in the form of transport aircraft, no less than atom bombers or supersonic fighters, is a powerful weapon for maintaining peace, as well as for winning wars. Second, the airlift proved that few of the aircraft in service with either the Royal Air Force Transport Command or the United States Military Air Transport Service were really suitable for sustained, high-pressure air supply duties. Only the Bristol *Freighter* and the Fairchild *Packet*, fitted with large fuselage nose and tail-loading doors, respectively, met the basic

requirement for aircraft able to carry bulky cargoes, which could be loaded and unloaded quickly and easily. Most of the others had started life as luxury air liners and, although reliable, hard-working craft, they had small-diameter cabins fitted with



The British *Universal Freighter* can carry tanks, heavy trucks, and large field guns.

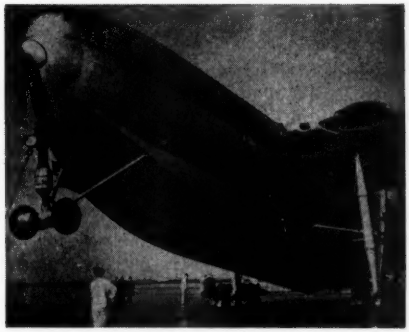
small side-loading doors, often many feet above ground level. Even the *Freighter* and *Packet* were hardly large enough for the job, but the much larger Douglas *C-74 Globemaster*, which was introduced experimentally on the airlift, had to be taken off after a few days, as its concentrated weight began to break up the runway at Tempelhof. The third lesson was that the *Globemaster* would have been able to carry on its good work had its weight been spread over eight wheels of a bogie undercarriage.

Size is important. Large aircraft are expensive to build, and appear at first sight expensive to operate; but an analysis of the over-all operating cost of the *Globemaster*, compared with the well-known twin-engine *C-47 Dakota* and four-engine *C-54 Skymaster*, provides some enlightening facts. For example, a task force of 68 *Globemasters* could have carried the 4,500 tons of food and supplies needed each day by Berlin at the time of the airlift, whereas it would have taken 899 *Dakotas* or 378 *Skymasters* to do the same job. The *Globemasters* need only have made 5,400 trips a month, compared with 39,706 by the *Dakotas* or 13,800 by the *Skymasters*.

Another important aspect of this comparison is that, whereas earlier types of transport aircraft could carry only troops and light, nonbulky cargo, the newer, larger aircraft like the *Globemaster* and the British Blackburn *Universal Freighter* can carry almost any item of military equipment, including tanks, heavy trucks, field guns, and antiaircraft guns, complete with their crews.

Equipment for an Airborne Army

The heavy, long-range transport plane is, therefore, the "troopship" of the airborne army, and in this respect it is interesting to note that the Royal Air Force Transport Command is to receive the three giant Saunders-Roe *Princess* flying boats, now being completed. Each of these planes will be capable of carrying more

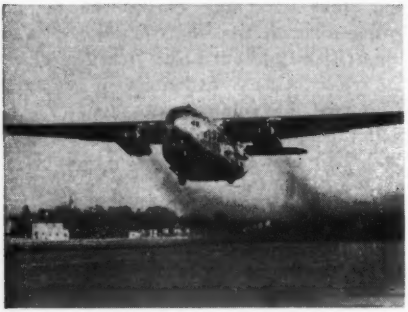


One of the three *Princess* flying boats under construction for the Royal Air Force.

than 200 fully equipped troops for 4,000 miles nonstop, at 385 miles an hour, making them the finest, fastest troop carriers in the world.

The large landplanes would, of course, be able to operate into forward battle areas only when large airfields had been

captured or built. Therefore, to back them up, formations of medium and small transports are essential. The best of the present "mediums" is probably the Fairchild *Packet*, a twin-engine plane fitted with quick-loading fuselage doors and able



The *XC-123A*—a jet version of the US Air Force's *C-123 Avitruc* assault transport.

to carry 12 tons of cargo, including light tanks.

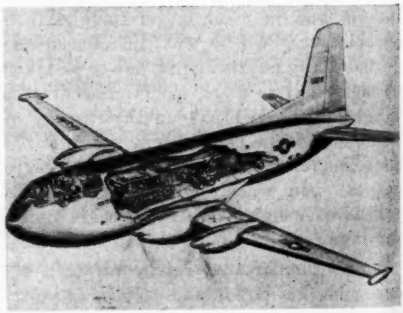
More important, experience both during maneuvers and in combat in Korea has proved that troops and heavy equipment can be parachuted successfully into forward areas from these aircraft, thereby avoiding the need for forward airfields. Equipment thus far delivered in this manner include a 9½-ton bulldozer, 155-mm field guns, and jeeps. Experiments are now being made with a type of universal container that would enable a gun and its crew to be dropped together, ready for immediate action upon reaching the ground.

The medium-size transports are the backbone of the airborne army; able to carry it right to where it is needed, and not just to the nearest large airfield or patch of sheltered water. It is, therefore, good news that the Royal Air Force is interested in the Fairchild *Packet*.

However, even these fine aircraft cannot do everything that is needed. There are many occasions when airfields are not available, and when the use of paratroopers is impracticable or inadvisable; for instance, in bad weather or rugged country where they would become scattered or split up into small, easily destroyed units. It was to meet this contingency that both sides, in World War II, developed the cheap, expendable military glider.

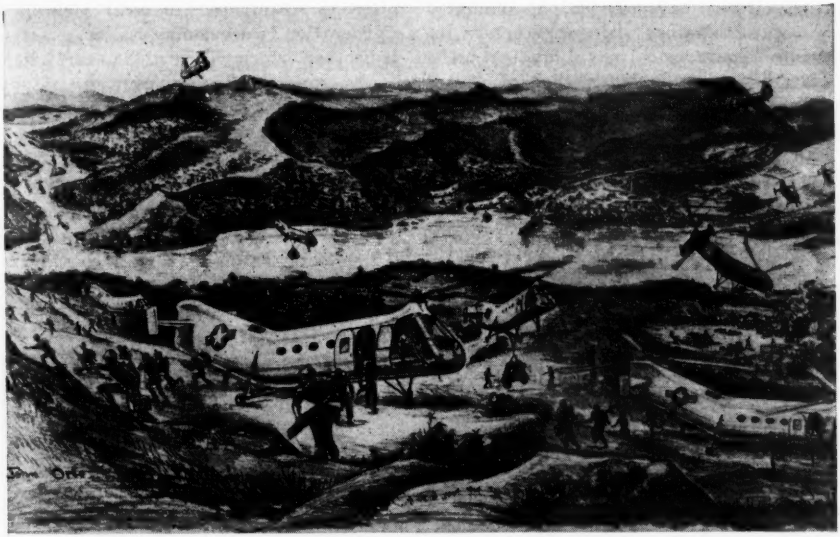
However, gliders have their limitations. Once they have been cast adrift they are at the mercy of strong wind. Their pilots cannot choose a landing field carefully because of the high rate of descent. Although simply made of wood and canvas, they are still fairly expensive, as they seldom survive one or at most two operational sorties. Finally, because they are lightly made, they offer little protection for their occupants in a crash landing.

The use of gliders seems likely to be a thing of the past, therefore, and the assault aircraft of the future will almost certainly be a small, rugged, powered plane or helicopter. Typical of the former

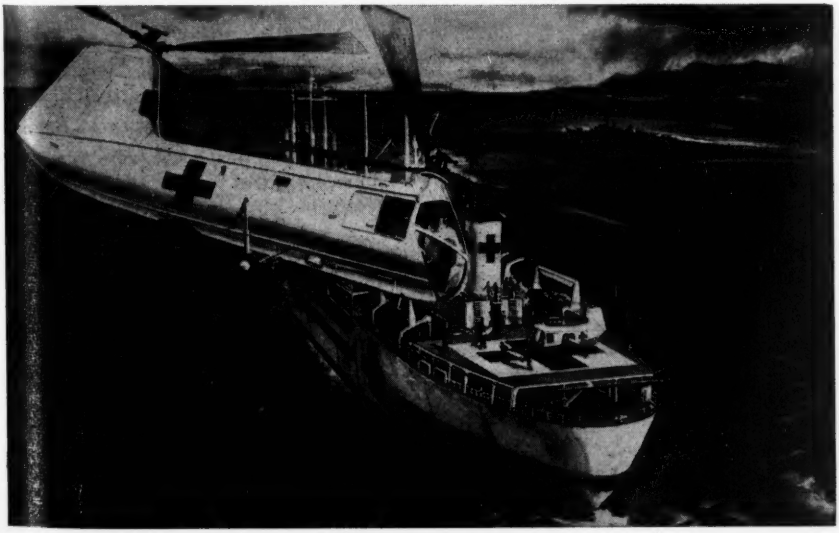


An artist's concept of the turboprop version of the *C-124 Globemaster II* transport.

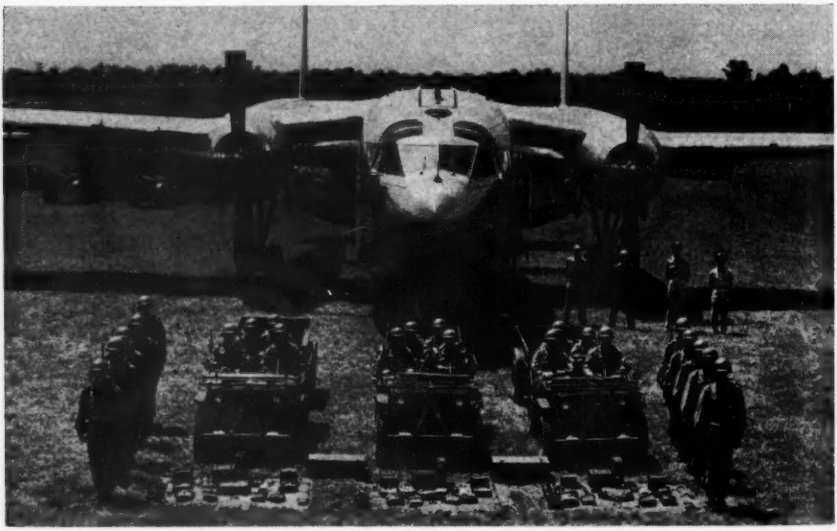
is the United States Air Force's new twin-engine *C-123 Avitruc*, which can carry 60 troops or 10 tons of equipment, has big doors and a low floor to facilitate loading, and is sturdy enough to land and take off in small, rough, unprepared fields. Helicopters seem most satisfactory for assault from the sea, and the United States Ma-



The versatility of the helicopter has been proved in Korea, and it is certain that it will play an even greater role in future warfare. Above, an artist's conception of helicopter-borne forces making a river crossing. Below, an artist's conception of the use of helicopters for the shore-to-hospital ship transfer of combat wounded personnel.



rines already have carried out simulated beachhead landings, using helicopters instead of conventional naval landing craft. They believe that this method of attack will result in greater surprise and far lower casualties than the old system of amphibious assaults. In addition, the carriers from which the helicopters are flown can be scattered and remain well out to sea, thereby minimizing the risk of disaster from a possible atomic counterattack.



These three forward observer parties, including 3 jeeps, 3 trailers, signal equipment, and 22 men, are typical of the types of loads which the *Packet* can carry in one lift.

In fact, it seems certain that helicopters would have many other roles to play in an attack by an airborne army, because they can land and take off safely and quickly in small clearings into which even a glider or assault transport could not operate. Already in Korea, small helicopters have been used to carry entire companies of troops in 4 hours up mountains that would have taken days to climb, and have at the same time laid telephone cables to link the troops' new positions with their headquarters. Now, the Piasecki Helicopter Corporation is developing its large *XH-16* helicopter, which will be able to carry light tanks, guns, or 40 troops over any natural or man-made barriers such as mountains, rivers, or mine fields. And, of course, helicopters have proved themselves worth their weight in gold for casualty evacuation, reducing the death rate for badly wounded soldiers to a fraction of what it used to be.

Would it Work?

There are many other aspects to this business of creating a completely airborne army. Obviously, it would suffer disastrous casualties if flown into an area where we had not secured local air superiority—but so would troops in trucks or boats, and as we have the world's finest fighters and bombers it is our fault if we do not have enough of them to clear a path for the transports. Then, again, some people will doubt that sufficient troops

could be flown in quickly enough to win a major battle. The same people doubted that a city the size of West Berlin could be kept alive and at work for more than a year solely by air supply, because they overlooked the fact that air transports, properly controlled, can fly in and out of a "target area" half a dozen times in the time that it takes for a truck or train to go there once. The United States Army has calculated that a pool of 6,000 *Packets* could provide full transport and supply support for 10 or 12 army divisions. At peak wartime production, this figure would certainly be possible.

World War II and the Berlin Airlift gave only the merest hint of what air transport can achieve if used properly. Now, with revolutionary new aircraft available to carry all the impedimenta of modern warfare quickly and surely to anywhere on earth, the concept of an air army need no longer be a dream or an experiment. It can be a reality—a means of safeguarding peace or of winning wars. It is the only logical army for Britain.

Panic—Forerunner of Defeat

Digested by the MILITARY REVIEW from an article by Lieutenant A. Argent in the "Australian Army Journal" January 1952.

NO UNIT is panic-proof. The study of military history shows that panic may strike veteran and well-trained troops just as disastrously and quickly as it strikes green and badly trained troops. Two classic examples bear out this point—the Confederate troops at Missionary Ridge in 1863 and the German XVII Corps at Gumbinnen in 1914. In both instances the troops were well trained and experienced, yet they broke and fled before the battles had been completely joined. At the other end of the scale there is Caporetto (1917) and Bull Run (1861) where ill-trained units and troops with low morale were involved.

The conflict in Korea has not been without its cases of panic and with subsequent heavy losses to the United Nations forces. Thus, commanders have again come face to face with the problems of collective fear and mass madness.

What are the counters to panic, and what, if any, are the danger signals that indicate that a unit is panic-ripe? By what means can panic be avoided? Are there any deterrents? These are the questions a commander must ask himself. History can supply many of the answers, as the following examples show.

Missionary Ridge—1863

The Confederate Army of Tennessee, with 2½ years' service to its credit and its great victory of Chickamauga only 2 months old, was occupying commanding ground known as Missionary Ridge. Although this army was not as strong in numbers as the opposing Federals, it was considered that the ground held was such as to make the position almost impregnable. The Confederates occupied trenches at the foot of the ridge and on the crest. The Federals were deployed in full view of the Southerners on the plains below Missionary Ridge.

The Federal plan of attack called only for the capture of the trenches at the foot of the ridge. These were quickly taken and, completely disregarding orders, the Federal troops continued attacking up the ridge. When a Federal flag appeared at the top of the ridge something snapped in the Confederate ranks. Panic swept through one Confederate division after another. General Bragg, who commanded

the Confederates, later reported: "A panic, which I have never before witnessed, seemed to have seized officers and men; and each seemed to be struggling for his personal safety regardless of his duty or his character. . . . Had all parts of the line been maintained with equal gallantry and persistence, no enemy could have ever dislodged us. . . ."

Some of the reasons for this rout were:

1. The unpopularity of the commander in chief, General Bragg, who had recently quarrelled with many of his subordinates and had dismissed a number who were respected by the Confederate troops. Furthermore, some of his high-ranking officers were openly disloyal to him, though not to the Southern cause.

2. The forming of the Federal troops in full view of the Confederates. Their great numbers undoubtedly dismayed the defenders.

3. The Federals were commanded by General Grant who had by far the greatest reputation for success in the Northern armies.

4. The splitting of Bragg's force by deploying at the foot of the ridge as well as on the crest. On capturing the lower trench system, the Federals followed hard on the heels of the fleeing Confederates and thus the fire of the defenders on the crest was masked by the withdrawal of their own troops.

Aduwa—1896

Italy invaded Abyssinia in 1896 with a trained and equipped force of 15,000 men. They were opposed by 100,000 Abyssinian spearmen. The Italians, supported by artillery, advanced on Aduwa during the night. Because of the wild and tortuous mountain terrain, the column lost its cohesion and, at dawn, was divided into three groups; each group being too far apart to give mutual support. The Abyssinians swarmed to the attack at daybreak and the left group of Italians fled, panic stricken. Unchecked, the spearmen continued their attack and quickly overran the center group. Only the right group stood fast and withdrew in good order at nightfall. The Italian artillery was ineffective because of the difficulty of estimating correct ranges in such mountainous country.

Only 3,500 of the original 15,000 Italians escaped from this encounter.

On the surface there seems to be no reason for such a disaster. However, the underlying causes were these:

1. The officers, noncommissioned officers, and men of the Italian force were comparative strangers to each other as the force comprised detachments from various home regiments. The artillery had never worked with the infantry. Therefore, there was a lack of mutual trust, understanding, and confidence.

2. The knowledge that the Abyssinians tortured their prisoners is an important cause when one considers the vivid Latin imagination and mercurial temperament.

3. The men were exhausted by a long and poorly conducted night march.

4. The Italian commander of the left group, in the presence of some of his troops, expressed his fears at being separated from the main body.

Haitshong—1904

The Russian 140th Infantry Regiment and a rifle brigade were in army reserve near Haitshong. Between them and the Japanese were the main Russian armies. Local outposts provided additional security and precluded surprise. Both formations had had battle experience and were rested.

One evening shortly after dusk, several Russian soldiers from the rifle brigade were in a nearby rice field. One of them saw something that apparently frightened him. He immediately rushed back into the camp shouting: "The Japanese are coming!" Panic was instantaneous throughout the brigade. Men seized their rifles

and fired wildly. In a short time, the brigade was racing in two columns to the rear—one toward Haitshong and the other toward the 140th Infantry Regiment. The corps supply units stationed in Haitshong were soon infected with this mass madness. Soon, a hopeless, milling tangle of men, vehicles, and animals was streaming northward. Days elapsed before this part of the brigade was rallied.

The fate of the column fleeing toward the 140th Infantry Regiment was markedly different. The noise of the firing and the screaming had reached the regiment. The buglers sounded the call to arms and the men fell in quietly. They ignored the panicky troops streaming past them. The sight of the orderly and unperturbed regiment in the gathering darkness calmed the imaginary fears of this part of the brigade and they were soon able to re-form their ranks.

Outwardly, both units were the same. They were well equipped, trained, and led. They were rested. In common with the rest of the Russian armies at that time, they were pessimistic, because of the repeated Japanese victories. However, despite this, the morale of the 140th Regiment was high, because the commanding officer was respected and his officers were loyal and co-operative. There was *esprit de corps*. The reverse was the case in the rifle brigade, where there was dissatisfaction and petty feuds among the officers and noncommissioned officers. As a consequence, there was no *esprit de corps*. Thus, when the test come, one unit was a regiment, the other a crowd of men.

Panam-ni (North Korea)—1951

In April 1951, a South Korean division moved out of reserve and took over the advance from the 27th British Commonwealth Brigade. After continuing the advance another few miles, it occupied commanding ground with one regiment forward and two in reserve.

The division was equipped with United States small arms and had an adequate supply of ammunition. Artillery and air support were available on call. The troops were rested and the units were up to strength.

However, when the anticipated Chinese night attack finally came, the South Koreans immediately broke and fled, abandoning arms and ammunition. Fast-moving groups of Chinese infiltrated to the rear and wrought havoc among the command posts and withdrawing transport columns. Officers tried unsuccessfully to create some order out of the confusion. The efforts of the division commander and his United States army advisers were without avail. Some 2 weeks elapsed before the division was re-formed.

The causes of this dramatic collapse can be summarized as follows:

1. Morale was low, because of the false but widely circulated statements concerning the prowess of the Chinese. Furthermore, on all previous occasions upon being attacked by the Chinese, the division had withdrawn. They had never had the opportunity to stay and fight. Confidence in their own abilities had fallen to a dangerously low level.

2. Many of the South Korean soldiers had grown "soft" through false impressions gained by association with other troops.

3. No system of leave existed for the South Korean units at the time, and many of the troops had not seen their families for 2 or 3 years, although the war had been in progress less than 12 months.

Conclusions

To sum up, panic seems to split logically into two phases: The gradual building up of a tense psychological state of mind; and then the sudden surprise or shock, either real or imaginary, which sets off the actual panic.

Bearing in mind the foregoing examples,

the first or preliminary phase is characterized by excessive nervousness, and with it a quickened imagination, pessimism, growth of wild rumors, and a loss of faith in leadership.

Defeats, loose talk by officers within hearing of the troops, national characteristics, and lack of faith and confidence in a unit that has not lived, played, and trained together all go toward producing the state of mind found in the first phase.

In the second phase, consider the trivial incidents that precipitated the panic—at Haitshong, a soldier frightened by a shadow; at Missionary Ridge, the appearance of a single Union flag on the crest.

History abounds with further instances of panic—the Prussian Army of Hohenlohe at Weimar in 1806, the Austrian X Corps at Trautenau in 1866, the Rayau Cavalry Division at Coulommiers in 1870 and other French formations during 1871, some units during the battle of France in 1940, and Malaya in 1941-42, to mention but a few.

However, the study of all these cases will not reveal or produce a magic formula that, when applied by a leader to his command, will make it panic-proof. Furthermore, the solution is not one of man-management in itself. It goes deeper than that. The astute leader will find the ways and means of regaining and retaining the confidence and trust of his men, as Joffre did at the Marne, as the colonel of the 140th Regiment did at Haitshong, and as Montgomery did when he assumed command of the British Eighth Army.

Common sense, a sympathetic understanding of his fellow man, a sound knowledge of his calling, and a calm and confident demeanor will prove to be the staunchest allies of the commander when faced with the problem of panic.

The Ultimate Objective of Strategic Air Power

Digested by the MILITARY REVIEW from an article by Captain Norman Macmillan in "Aeronautics" (Great Britain) January 1952.

HAS the ultimate objective of strategic air power ever been defined? If so, I have never seen the definition. Always the same vague objective is mentioned—victory. But victory over what? History shows clearly that it is not enough to win victory over the material forces of the enemy; yet that, and that alone, is only too often the goal.

Today, the possession of weapons of mass destruction, which can be transported from continent to continent by aircraft, and dropped to flame out a great city in one blow, and the emergence of jet bombers which cruise in the region of 10 miles a minute, ought to compel world attention to be directed to consideration of the ultimate objective toward which this new strategic military power should be applied.

However, in the political hiatus which afflicts mankind today, this problem has been shelved. There is no clear definition of objectives. Instead, we see nations regrouping their citizens for civil defense against new, threatening, and virtually uncontrolled events. Even the United States, far distant from the impact of the first two world wars, is now confronted by the threat of oligarchical war and its direct consequences to her cities and their citizens.

The history of ships provides the best historical parallel. The former efficacy of ships in war was based upon two factors: first, their mobility, which enabled them to force the war away from their own homeland; second, the nature of the oceans, over whose vast unappropriated spaces no nation held sovereign rights, gave free play to their mobility, both in peace and war. The nation whose navy was supreme

held sway over 70 percent of the surface of the world.

Today, not even the addition of naval aircraft borne in carriers can restore to fleets the power they once wielded in the affairs of nations and the world. They can no longer command recalcitrant powers to open their ports. The battleship counter, known as the "fleet-in-being," has passed to the strategic bomber as carrier of the fission bomb. The surface merchant ship is threatened at sea as never before; its port installations are threatened by the huge chemical bomb, the fire bomb, and the fission bomb. The sea lines of communication, seriously threatened in the first two world wars, are again a certain battlefield if another world war should come; along their length the nations of the West will again be compelled to fight a defensive battle, with no opportunity to make the oceans a decisive battle zone. Experience has shown that sea warfare waged by submarines is continuous and unending, at best subject to fluctuations of lesser violence, but never to one of complete cessation which can be described as having won command of the sea.

Freedom of the Sea

Thus, the former ultimate objective of warships—the freedom of the seas—has been denied to surface ships by the development of submarines and aircraft. In the absence of former values in relation to current conditions, new defense values are thrust upon the Western powers. If it is no longer possible to contain a major enemy at sea, or to impose a burden upon him there which must strain his military economy, other means must be sought to achieve this aim. And just as the power to do this to maritime nations was once vested in the mobility of ships, so today the power to bring this form of pressure upon a great land-mass state will depend mainly upon the mobility of aircraft.

If, indeed, the principle of the sovereignty of each state in the air above its territory had never been agreed, but instead the principle of the freedom of the air had been applied as was the principle of the freedom of the seas, it would be possible for military aircraft to range the skyways throughout the world without let or hindrance in peacetime (as do warships upon the oceans), and thus maintain a visible balance of power which would have a moral effect in restricting the likelihood of war.

Let it not be thought that the principle of freedom of the seas guaranteed by warships was an ancient one. It had to be established. Pirates did not like warships, and they contested the freedom of the seas. In Tudor times, royal letters of marque were granted to private citizens to send armed ships to prey as privateers upon the rich trading vessels of the enemy of the day. As recently as 1794, even revenue cutters had a private war with the King's boats, and the eldest son of the famous explorer, Captain James Cook, lost his life through the spite of the master of a revenue cutter who cast the sloop *Spitfire's* boat adrift off Poole in a gale. Thus, if the freedom of the sea was a principle which had to be established, and did not exist inherently, surely one of the great freedoms which man should strive to obtain in the future is the freedom of the air.

Freedom of the Air

Freedom of the air is a policy which has invariably been laid down by victorious states in armistice terms agreed with a defeated power. Until the end of 1922, all aircraft of the Western powers had free right of passage through the air over the territories of Germany, Austria, and Hungary, together with landing rights. Today, the several allies have free right of air passage over and of landing on the territories of the defeated powers except where their own differences among themselves have complicated the armistice

terms by ranging one former ally against another. How long this freedom of the air over ex-enemy states (partial though it may be through these differences) will continue is as yet unknown; doubtless, it will last as long as occupational or defensive armies are employed, and air forces and civil air fleets are prohibited to the former enemy states.

If there is another world war, it should be decided in advance that when it is won, the victorious powers will impose the permanent freedom of the air as one of the conditions of any armistice and the subsequent peace terms. Then no defeated state could build surreptitiously and train clandestinely an illegal air force. Admittedly, in the impasse which has followed the last world war, the conditions do not now exist wherein the victorious allies could impose full freedom of the air. They are, themselves, too full of limitations in other directions to achieve agreement in this. Moreover, lack of freedom of the air is in principle a military restriction. And with the former allies now rearming against one another, there is no possibility that they would agree to ease restrictions in the military sphere. However, abolish war and there need be no restriction except that which is required in the name of safety of flight. Thus, to accept the principle of complete freedom of the air, subject only to the safety restrictions of flying control, is to accept a condition which embodies the rejection of war. Already those Western powers who have joined in mutual defense pacts have accorded to the military aircraft of their composite forces the freedom of their combined air, and have thus established the principle on a small scale.

In a condition of universal air freedom, military aircraft would have no special rights outside their own airfield orbiting territory. They would be required to conform to accepted rules for the passage of civil aircraft. However, it should be possible to terminate (possibly forever) that abomination of air freedom, the prohibited area, which is invariably a prerogative of the armed forces, and not of the people of a state. In this case, zonal and traffic channeling regulations must not be permitted to become a formula for the creation of new and vast prohibited zones, unnamed as such, but as securely immunized by the simple expedient of directing the air traffic to zones and lanes outside them. The channeling of aircraft should, therefore, be confined to the approaches to the nodal airports where the traffic density demands this as a safety measure. This canalization of the air traffic should be restricted to an internationally determined altitude above which traffic lane control need not apply.

If freedom of the air is to be applied for the benefit of mankind, and not for their repression and exploitation, it is essential that its application shall be in accordance with the principles which govern the living conditions of the Western peoples and not those which govern the living conditions of the Communist peoples. This will make negotiation difficult, but unless negotiation can prevail until all nations will voluntarily forgo their sovereignty in the air above their territory, and permit universal freedom of the air as an act of choice, the danger of war will persist, and, it seems, must sooner or later break into open flame.

Freedom of the air is one possible benefit of a third world war, and there can be few others, perhaps none. It is the guarantor of ultimate peace, for freedom of the air will abolish the last pirates who afflict mankind, the tyrannical oligarchies. These few men will have no barrier behind which to build up their schemes for world control.

Restrictions and Difficulties

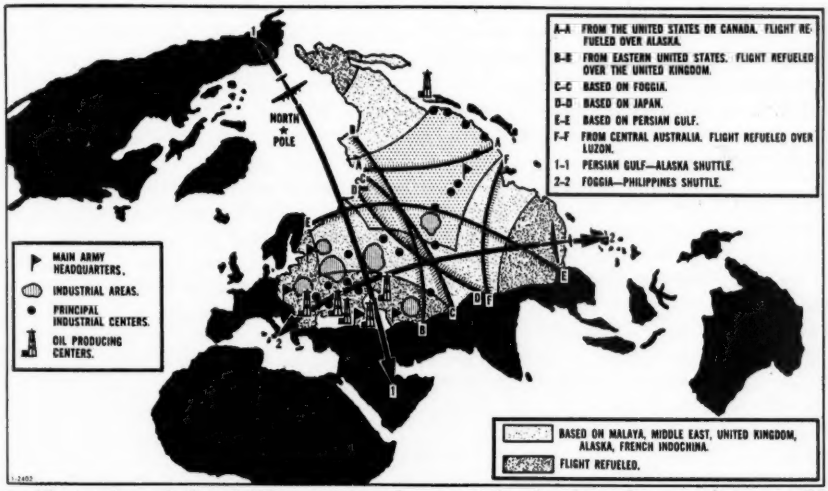
It should, therefore, be an essential goal of the Western allies, if a third world war should come upon mankind, that they must

be capable of emerging wholly victorious from the conflict. The line-up of states which now face one another will then form the last great coalitions of major enemies. However, if the East were to win, there might be yet another calamity in a possible conflict between north and south, the Soviet Union and China, for absolute control; and into such a conflict, any conquered peoples of the West would assuredly be impressed and their industrial and scientific capacities engulfed.

Therefore, freedom of the air should be made a political aim of the Western allies, and added to the other freedoms which they have enumerated to the world as goals. The Eastern peoples should be invited to subscribe to this aim. If they should refuse, as well they may, for freedom of travel is not one of the characteristics of Communist countries, the way will be defined more clearly. It will have been seen which states are prepared (and which are not) to sacrifice that degree of sovereignty so necessary to bring freedom of passage over the land into line with the freedom of passage which exists over the natural water portion of the globe.

At the present time, there are real difficulties to be overcome. There are the rearming conditions within the several states allianced on one side and the other, the prohibited areas which still stand as evidence of fear, and the frontier problems of identity, surreptitious entry, smuggling, espionage, currency, and language. These problems are difficult to deal with by negotiation, but a start could be made by reciprocal agreements negotiated as extensions to the freedom of passage of the allied military air fleets now in Western Europe.

If it is conceded that the freedom of the air should be a major political objective for the future, it can be no less certain that its attainment by negotiation is de-


A-A FROM THE UNITED STATES OR CANADA. FLIGHT REFUELED OVER ALASKA.
B-B FROM EASTERN UNITED STATES. FLIGHT REFUELED OVER THE UNITED KINGDOM.
C-C BASED ON FOGGIA.
D-D BASED ON JAPAN.
E-E BASED ON PERSIAN GULF.
F-F FROM CENTRAL AUSTRALIA. FLIGHT REFUELED OVER LUZON.
1-1 PERSIAN GULF—ALASKA SHUTTLE.
2-2 FOGGIA—PHILIPPINES SHUTTLE.
NORTH POLE
MAIN ARMY HEADQUARTERS.
INDUSTRIAL AREAS.
PRINCIPAL INDUSTRIAL CENTERS.
OIL PRODUCING CENTERS.
BASED ON MALAYA, MIDDLE EAST, UNITED KINGDOM, ALASKA, FRENCH INDOCHINA.
FLIGHT REFUELED.

An illustration of the striking ranges of present-day bombers from various possible bases. In special cases, the striking range can be increased by flight refueling, especially where a great part of the journey is over friendly territory. This ring of bases would make it possible to attack all parts of the Soviet Union. *B-36* bombers are assumed for the longer missions, while *B-50s* could undertake many shorter ones.

pendent upon establishing Western air superiority, because air superiority is the most powerful political bargaining counter today.

Air supremacy may not absolutely assure the safety of armies which are too slight relative to opposing armies, and so may not be able to prevent the occupation of adjacent territory by the stronger ground force. However, it will prevent the consolidation of invaded territory. And it will give an army of reasonable size and power an advantage over a larger army not so fortified.

Air Power and Geography

Air superiority is then the gateway beyond which lies the possibility of freedom of the air. However, the problem is immense, no less, indeed perhaps greater, than the problem which might have been imposed by Napoleon or Hitler if either had conquered Russia; for between those two men and Stalin there is little difference if one regards all three in the role of conqueror.

Faced, as we are, with the restriction of decisive surface operations to the great continental land mass of Eurasia, the former high strategic value of the oceans as battlefields no longer favors the West, but has become instead a liability, and the correct employment of air power may well be the deciding factor between victory or defeat. The time may come when guided missiles, rockets, nuclear reactors, and possession of the moon as a strategic base for their employment will be fundamental to victory, but that time still lies ahead. Strategic air power in the immediate future depends on piloted aircraft, and it is in the application of these aircraft that current decisions must be made.

Military Aircraft

There are five main categories of military aircraft, namely:

1. Lines of communication defense aircraft, which includes antisubmarine aircraft.
2. Strategic base defense aircraft.
3. Tactical aircraft.
4. Transport aircraft.
5. Strategic aircraft.

There is no possibility that any one of these five categories can, at present, be dispensed with, and the effectiveness of air power will depend upon the strength allocation to each category and the efficiency of the aircraft in performance, weapons, and crew training.

It is quite improbable in the course of a war of the dimensions which a third world war would assume that the category requirements would remain relatively constant. However, maximum requirements for the first three categories can be established on the basis of (1) the maximum lines of communication transport potential; (2) the number and geographic size of selected strategic bases; and (3) the extent of the manpower allotted to surface forces. These three decisions are fundamental, and must affect the allocation to the remaining two categories. Furthermore, army requirements for aircraft of the fourth category must affect the industrial and manpower potentials for the supply, manning, and operation of aircraft in the fifth category.

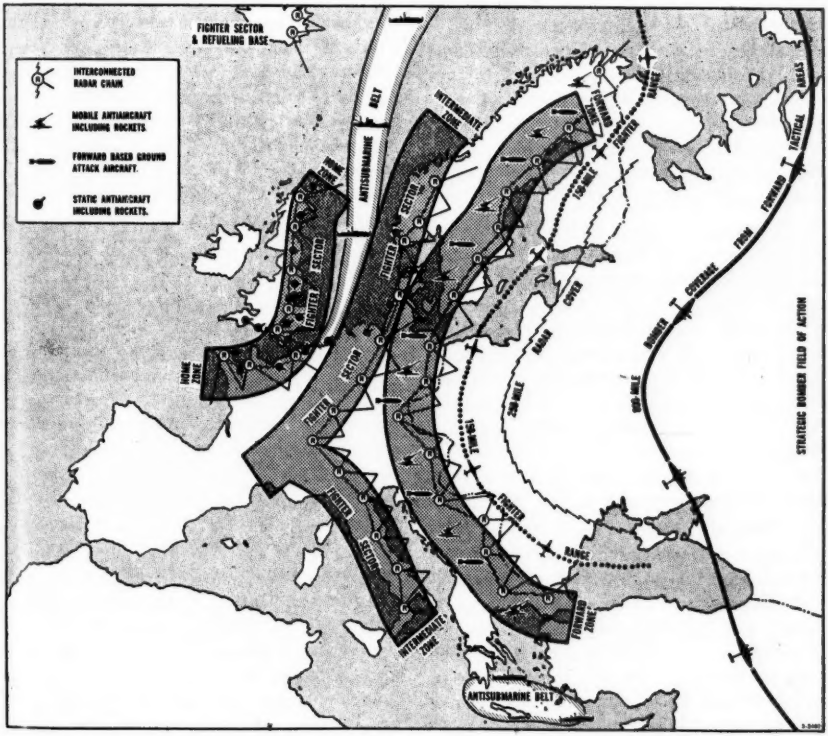
It has been put forth by Mr. Winston Churchill that the United States Air Force strategic air-fleet-in-being with fission bombs has so far restrained the Soviet Union from attacking Western Europe. If this is so, it is reasonable to argue that the Soviet Union must be engaged upon the creation of a strategic bomber fleet of equal or greater size, and the production of a large number of fission bombs, a procedure equivalent to the naval rivalry of the past. And upon this premise, it is impossible to accept the thesis that the size of the Western strategic air fleet should be conditioned upon the Western army and navy requirements in categories 1, 3, and

4, but must be based upon the necessity to maintain a strategic air-fleet-in-being superior to that of the Soviet Union.

This, then, is the crux of the whole problem. The size of the land forces of the Western allies should be determined in relation to their own total resources, and not in relation to the total Soviet land forces. If the second policy were to be adopted, it might become impossible to maintain superiority in the race for the strategic air-fleet-in-being.

Strategy of Air Power

It has been necessary for Britain in the past to fix her whole peacetime rearmament program in relation to capital ship construction. That factor determined everything else. And as the keystone of policy, it was the correct decision before World War I. By 1939, the importance of that policy had receded with the advent of powerful air fleets. In 1952, the same policy decision should center on the strategic



A possible defensive arrangement for Western Europe, using bombers with a 800-mile effective radius and fighters with a 150-mile effective radius. Radar coverage extending some 250 miles in advance of the radar equipment has been assumed. To protect the United Kingdom as a strategic bomber base, there should be three lines of fighter cover; each line with its own radar chain and sector defense group. The air defense commander would have ground-attack aircraft for assaulting forward enemy airfields.

bomber, which now occupies the former role of the capital ship.

Thus, in the air, the first necessity is to allocate the strength of the strategic bomber fleet, and the second to determine defense requirements for the strategic bases. Only after these requirements have been met is it safe to allocate manpower to the industrial and military demands for tactical aircraft. The tactical air strength then evolved should determine the army strength which can be placed in the field. Similarly, the lines of communication requirements of the strategic air fleet must be met before it is possible to determine the lift that can be allocated for army requirements. In no other way can the strategic bomber fleet be maintained at the state of readiness required by the international situation, and produce continuity of effort in the event of war.

The alternative policy of providing for army requirements as the basis of calculation must drain manpower from the strategic air-fleet-in-being, and result in a war of uncertain, but long, duration, fought on Soviet terms, and requiring the physical capture of territory to bring it to an end. When one considers the time taken and the effort expended by the allies (including the Soviet Union) to defeat Germany by this means, how long will the same procedure take relative to the Soviet Union and China?

There are aircraft which can bomb the Soviet Union from the American subcontinent. However, these must continue to be few in number, for they are large and their construction is slow and it absorbs much manpower. Such aircraft have a value equivalent to that of the former battleship fleet-in-being. However, it is to the advance base aircraft—like the *B-29* and *B-50* and the Vickers *660*—that we must look for the major strategic contribution. These aircraft must operate from bases in the United Kingdom, the Middle East, Malaya, French Indochina, Japan, Northwest Canada, and Alaska. Their range and/or bomb load, and their factor of utilization, can all be raised by flight refueling; some of the American *B-29* groups now in England are equipped with the loop-hose system of flight refueling. From these bases, the main Communist industrial and strategic centers can be reached; the same, or other, targets could be assigned to the *B-36* force flying from the United States and refueling in flight if necessary.

The security of these advance bases is the key to the whole strategic air picture. Four of them have teeming populations who have to be protected and whose food supply problem is grave. Two of them are highly industrialized. The range of climate varies from arctic to equatorial. The lifting of the fuel and warlike stores is a major logistical operation.

The American military mind regards the United Kingdom and Japan as the equivalent of aircraft carriers. I have heard their vulnerability to air attack referred to as their percentage of floatability. The idea of the United Kingdom "sinking" beneath a rain of modern airborne explosive is an unpleasant thought. However, the territory of Britain is to aircraft what her harbors formerly were to her fleet; upon her land the Western allies must base a large part of their air-fleet-in-being. She will be a target, not for the tactical aircraft, but for the biggest projectiles that the devilish ingenuity of man can produce.

After the United Kingdom, the Middle East and Northwest Canada-Alaska are the two best bases. Britain and the Middle East are both dependent on surface sea communications, but Northwest Canada-Alaska can be supplied through the railway from Edmonton to Prince Rupert and by ship or aircraft from there.

The use of three such bases, plus direct strategic attack from the United States and Australian mainlands by *B-36* bombers, would stretch the Soviet air defense

to the limit if the attacks were co-ordinated by a combined strategic air command.

The security of these bases must be the chief concern of air defense. Britain is the most vulnerable of all the strategic air bases of the allies. If the Soviet armies were to overrun Europe to the Atlantic seaboard, the time factor for interception might be so brief as to defeat that method of air defense. It is the function of the allied armies in Western Europe to prevent the lowering of Britain's percentage of floatability to a level where the Americans might have to abandon ship and retire 2,500 miles.

The planning of a combined strategic air offensive by three or more air commands, operating from bases thousands of miles apart, is inherently a simple concept. However, it involves intricate staff work. The further integration of individual base defenses, tactical field forces, and the adjustment of their over-all logistical requirements to suit the whole strategic plan demands the creation of a supreme office for the issue of world military directives.

The Air Arm and Invasion by Sea

Digested by the MILITARY REVIEW from an article by Dr. J. M. Spaight in "Norsk Luftmilitaert Tidsskrift" (Norway) January 1952.

CAN the air arm, unassisted, prevent invasion by sea? That is a question upon which the blue-sky school and the blue-water school would naturally hold conflicting views. Both could cite recent historical events in support of their contentions. Some of these events are dealt with in this article.

It could be claimed, for instance, that the Royal Air Force prevented the invasion of Britain in 1940, that is to say, its victory in the Battle of Britain had the effect of deterring the German High Command from launching the sea-borne assault that was planned and organized. If the *Luftwaffe* had been able to gain and maintain superiority in the air in and around the southern part of England, the invasion probably would have been attempted. "The *Führer* has decided," said Hitler's directive of 2 July 1940, "that under certain conditions—the most important of which is achieving air superiority—a landing in England may take place." "I have decided," said his directive of 16 July, "to prepare a landing operation against England and, if necessary, to carry it out." As it was, the conditions considered by Hitler and his staff to be necessary if the attempt were to have any prospect of success were not fulfilled. Admiral Raeder reported on 14 September: "The present air situation does not provide conditions for carrying out the operation, as the risk is still too great." But the invasion was, at that time, merely postponed.

Operation *Sea Lion*

The plan for an invasion, Operation *Sea Lion*, was not finally abandoned until February 1942, but the impractability of the execution had really been realized at least a year earlier. Preparations for it were begun vigorously in the early autumn of 1940, when a large concentration of ships and barges was made on the coast of the North Sea and English Channel. The air attacks on English airfields and harbors from June 1940 onward were a preliminary part of the project. Until the middle of August, the aim of the German Air Force had been to attack British shipping, south coast ports, and airfields in the south of England, within the

framework of the *Sea Lion* plan. In the second half of August, partly from disappointment at the lack of decisive results, partly because it was imperative to force an early decision, and partly as a result of disunity and rivalry between the German armed services, the plan had been changed. Göring set about forcing the battle over London in the hopes that the continuous bombing of the capital would itself induce the British Government to ask for terms. The air onslaught on London in September failed, we know, to break Britain's will-to-war; indeed, it had precisely the opposite effect. Hitler still clung to the hope that an invasion would be possible, but it was a fading hope thereafter.

The Invasion of Malaya

What the Germans failed to do in 1940 the Japanese accomplished in 1941, when they invaded Malaya. They were stronger in the air in that theater of war, and it was an immediate consequence of this superiority that they were able to land troops in the peninsula with comparative ease. The British Air Force in Malaya was not only outnumbered, but was inferior in equipment and performance to that of Japan; and British sea power in the Far East was eliminated by the disaster of 10 December 1941. It is ironical to think that the *Prince of Wales* and the *Repulse* were sunk by air attack within an aerial stone's throw of the airfield at Kuantan from where all the aircraft had been withdrawn the day before owing to a lack of fighters to keep away Japanese bombing attacks. The two battleships had no air cover whatever when they were attacked. Some fighters were sent belatedly from Singapore; they arrived in time only to witness the sinking of the *Prince of Wales*.

Coral Sea and Midway

In the summer of 1941, two historic events served to emphasize the vast change which the third arm had brought about in the conditions of naval warfare. The battles of the Coral Sea (4-6 May 1942) and Midway Island (3-6 June 1942) were sea fights; warships were sunk or damaged with their guns blazing out not at other warships; they were firing at aircraft. The surface vessels of the belligerents were never within sight or range of one another. All the losses were inflicted by bombs or torpedoes launched from the air. The victories have been claimed as a triumph of air power over sea power, but that is hardly a true appreciation of the event. The aircraft concerned were, except to a small extent at Midway, carrier-borne, and carriers are undoubtedly instruments of sea power.

On 12-15 November 1942, another naval engagement took place which showed that the historic sea fight is not yet entirely a thing of the past. At Guadalcanal, the battle resolved itself into three distinct encounters: an engagement of cruisers on the night of 12-13 November, one of aircraft *versus* warships on 13-14 November, and a battleship battle on 14-15 November. The pattern of the still greater battle of the Leyte Gulf on 24-26 February 1944, also was a composite one with the old and the new features interwoven. It was, in fact, made up of four separate battles: one between Japanese warships and American aircraft in the Sibuyan Sea, one between warships only in the Surigao Strait, one between American destroyers and carrier aircraft on the one side and Japanese warships on the other off Samar, and one in which American carrier aircraft attacked Japanese warships off Cape Engano. Of this last encounter, it has been said that it was "the ultimate in the development of carrier warfare which had been foreshadowed in the Coral Sea, at Midway, and with less success at the Marianas." The engagement in the Sibuyan Sea was broadly similar in character, but in the other two encounters surface vessels were in action against one another.

The battles referred to above were all connected, directly or indirectly, with operations whose purpose was to support or frustrate landings in the neighboring islands, and they are a guide to the part which the naval and air arms respectively may be expected to play in the covering and preventing of invasions in a war in the future. It is evident that naval forces still have a place in such operations, though it may become less important as time goes on. It cannot safely be assumed that to the air arm alone can be confided all the functions of this category of defense which used to be exercised by naval forces.

The Invasion of Normandy

Overlord is, and will remain, the classic example of the successful landing of a large invading force in enemy-occupied territory, powerfully defended on the ground and under, if not above, its sea approaches. It is obviously no proof that such a landing could be effected in the teeth of preponderant strength in the air. The German air defense was weak. The British and American Air Forces established and maintained superiority in that element during and after the landing. The cover which they provided for the invading force was complete. They played their part, too, in the transportation of those forces; the troops landed from the air made an important contribution to the success of the ground operations. There was no effective opposition by the *Luftwaffe*. It was too heavily committed to the air defense of the German homeland to be able to spare the fighters that would have been needed to turn the scale in Normandy. The Germans were short, too, of oil as a result of the massive onslaught of the British and American bombers upon the synthetic plants and refineries in Germany and Austria. Their defense on the ground was crippled and weakened by the bombing of the railways and junctions in the north of France. The invasion was splendidly mounted and brilliantly executed. There might have been a different tale to tell if the full strength of the *Luftwaffe* could have been thrown into the struggle on the beaches and against the allied aircraft which operated against the communications of the German Army.

A Matter of Teamwork

The three arms of the service were in action, and each played an essential part, in the great events of June 1944. They were all three no less engaged, too, in their respective spheres, in the invasions and attempts at invasion in the Pacific, as will have been made clear from what has already been said about the operations in that theater. There is no ground for holding that the services of any one or two of the three arms could have been dispensed with safely. The day may come when the air arm, unaided, will be able to deal faithfully with an invading force that comes by sea or by air. An enemy armada might be almost wiped out of existence by atomic bombing as it approached the appointed landing area, or at the place of assembly on the enemy coast. That, however, is as yet a vision of the future, and before it becomes a reality atomic weapons may have been effectively eliminated from national armaments. For the present, it seems that defense against seaborne invasion must remain a matter of teamwork.

Expanding the Army's Air Component

Digested by the MILITARY REVIEW from an article in "The Aeroplane" (Great Britain) 30 November 1951.

THERE are many conflicting ideas at the present time about the use of aircraft by army units. In the United Kingdom, since the end of the war, there has been a decline in the training of airborne troops and the development of their operational tactics, although in what measure this has been caused by the over-reduction of the air transport forces is difficult to assess. In the United States, on the other hand, a great deal of attention is still paid to large-scale paratroop formations, and they have been used operationally on several occasions in Korea.

The lessons of that limited war have, in fact, mainly concerned army-air liaison, and many significant innovations have arisen as a result of certain army requirements. These include a multitude of duties, ranging from "Mosquito" tactical air controllers, who direct aircraft and ground armament on to battlefront targets, to the widespread use of helicopters and light aircraft for front-line communications and casualty evacuation.

American Efforts

In consequence, the United States Army is pressing for greatly increased establishments of light aircraft, so far without internecine opposition from the United States Air Force, although at the moment supply is officially limited to fixed-wing types of less than 2,500 pounds gross weight, and to helicopters of less than 4,000 pounds gross.* This limit, however, does not appear to be interpreted particularly strictly. One of the most interesting lines of development is the armed two-seat light airplane, adapted from the United States Air Force trainers (the Beech *T-34* and the Temco *T-35*), which with two .30-caliber machine guns and six 2¼-inch rockets may be used for strikes in addition to air observation post (AOP) and communication duties.

Duties Increasing

Until recently, British Army aircraft had been confined primarily to the AOP role, since August 1950, when the Glider Pilot Regiment was reduced from two flying squadrons and one training squadron, to one independent squadron. The duties of this squadron were to keep alive glider techniques in airborne operations, and to maintain a small cadre of trained glider pilots.

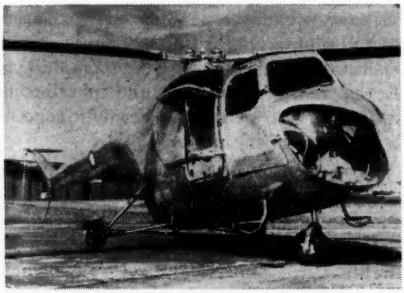
One of the characteristics of Army AOP operations had been that a certain part of the flying effort had to be diverted to other than AOP duties, and it became increasingly apparent that units to provide light air transport for Army formations were an urgent necessity. Therefore, after the reduction of the Glider Pilot Regiment, some of the surplus pilots were trained in the new role of light liaison duties.

Activities in Korea

The first light liaison flight of the British Army recently began operations in Korea with its Austers, after an intensive training and working-up period in the Welsh mountains in preparation for the mountainous terrain in Korea. It was formed in June 1951 as No. 1913 Light Liaison Flight, Royal Air Force, for com-

* Since this article was written the Army and the Air Force have reached an agreement which stresses that in the future "performance of functions" and not "specific weight restrictions" will be the criterion for the purchase of Army aircraft. This will mean that the Army will have heavier planes for its employment in transportation, observation, and other missions than previously.—The Editor.

munications, reconnaissance, and casualty evacuation duties with the 1st Commonwealth Division in Korea, attached to army corps headquarters, with Glider Pilot Regiment pilots and ground crews, and Royal Air Force technicians.



The Bristol *Sycamore* helicopter.

Prior to the formation of the light liaison branch, personnel for those duties were in fact trained in the summer of 1950. Three officers and four noncommissioned officer pilots completed a 10-week conversion course at the Air Observation Post School, Royal Air Force Station, Middle Wallop, in which they were trained in the advanced handling of Austers, and they were then posted to No. 656 Air Observation Post Squadron in Malaya.

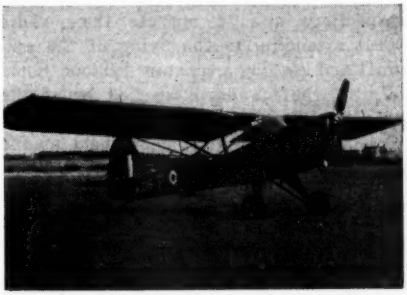
The new pilots helped to relieve the rather heavy burden of operations in the squadron, and are now operating an air observation post flight in name, but manned by Glider Pilot Regiment personnel, with a RAF technical ground crew. Its duties include communications flights, mail carrying, reconnaissance, and casualty air evacuation in conjunction with helicopters.

In September 1950, the decision was made to convert all pilots of the Independent Squadron of the Glider Pilot Regiment to the light liaison role, as the reduction in Transport Command meant that no aircraft were available for glider-towing duties, and, therefore, no continuation of the glider training was possible. The last appearance of military gliders, at least for the present, was in October 1950, in "Exercise Oil King."

Conversion Courses

All glider pilots now have been converted to light aircraft, a process which was not difficult since the initial stages of the glider training were performed on *Tiger Moths*. The conversion courses, held at Middle Wallop, which is also the headquarters of the Glider Pilot Regiment, were of 10 weeks' duration and comprised about 60 hours' flying.

Pupils, who for AOP duties are always commissioned gunners, are given 50 hours' elementary training on *Tiger Moths* by RAF instructors on a syllabus comparable to a "potted" elementary flight training school course. They then complete 105



The Auster *Model "S"* AOP aircraft.

hours' conversion on Auster *5s*, *6s*, and *7s*, with Army instructors. Gunner pupils also practice oblique and vertical photography.

Light liaison pilots now may be drawn from almost all regiments and corps, including officers or noncommissioned officers, and candidates go to Hornchurch for a normal aircrew selection board. On qualification at Middle Wallop, they are transferred to the strength of the Glider Pilot Regiment. Some 90 percent of the training for both light liaison and AOP pilots

is done in small fields surrounded by obstructions, or on marked-out strips on the edges of the airfields, simulating conditions which will be met throughout future operations. Another important aspect of

The Auster *B4 Ambulance/Freighter.*

the course is low-level, evasive flying using the local terrain for protection from flak and fighters, together with low-flying pilot navigation.

Pilots are trained to do their own daily inspections and to operate their radio while attending to the flying of the aircraft and keeping a constant lookout. Some idea of the standard reached by pupils upon qualification is given by the competition for a trophy which is held at the end of each course.

Marks are awarded for preflight inspection and the rectification of minor faults in the engine, airframe, and radio of an Auster *6*; instrument flying; and a mock operational sortie. This includes concealed take-offs, approaches, and landings on a small strip, and is followed by a navigation exercise—comprising general flying and radio operating—over a three-leg cross-country flight, culminating in a spot forced-landing over the airfield. In message dropping, a maximum error of 10 yards is allowed from an average height of about 50 feet.

Finally, pupils are tested on strip landing, having to pull up in 110 yards without swinging off the very narrow landing area 5 yards in width. The final engine-on approach is done at about 35 knots. AOP pilots are tested additionally in the observing and reporting of hostile gun or mortar fire.

After qualification, light liaison pilots are posted either to formed liaison flights in AOP squadrons or as individual pilots in AOP squadrons pending the formation of full flights. Light liaison pilots are now operating in the United Kingdom, Malaya, Korea, and in Germany; and in relieving AOP pilots are allowing them to concentrate on gunnery duties.

Ground crews for light liaison flights are posted from Army units to the Glider Pilot Regiment, operating as drivers, signallers, and radio operators as in the AOP flights. The tour of duty for an Army pilot is 3 years, but after regimental duty, personnel may return once more to flying.

The Army's Aircraft

Standard for both AOP and the light liaison duties at the moment is the Auster *6*, which, fitted with dual controls, is used for training as the *T.Mk.7*. The Auster has proved itself an admirable plane in its many years of service, its stability and robustness being particularly good.

In the search for better field performance, both in landing and taking off, the Auster *Model "S"* has been developed from the basic airframe, and, in extensive tests at the AOP School, has shown some promising potentialities. Its larger wheels in particular meet the Army requirements for getting out of soft fields and its increased power gives a useful increase in rate and angle of climb.

The new Auster *B4 Ambulance/Freighter*, which aroused a great deal of interest during the recent Army maneuvers, also seems to provide many of the answers for light liaison duties, particularly for the casualty evacuation role. The DeHavilland *Beaver* is also being tried.

The specialized Army requirements are

perhaps most adequately met by the helicopter, and the first AOP flight equipped with Bristol *Sycamores* is already operating. In addition, two noncommissioned officers of the first light liaison flight are completing their conversion on to the Westland Sikorsky *S-51* at Yeovil. The eventual intention is that all light liaison pilots of the Glider Pilot Regiment will be helicopter trained, since this is the type earmarked for those duties in preference to fixed-wing aircraft.

The East German People's Police

Translated and digested by the MILITARY REVIEW from an article by Carl Tromp in "Ny Militar Tidskrift" (Sweden) No. 9, 1951.

IN CONNECTION with the current discussions concerning Western Germany's possible rearmament, the remilitarization of Eastern Germany arouses a great deal of interest. The Soviets deny the existence of East German military formations, but it is obvious that under the official designation of *Volkspolizei* (People's Police) is hidden the reconstruction of an East German military force.

Originally Frontier Police Units

The People's Police traces its origin to the frontier police formations that were organized by the Soviets in 1945. In the beginning, the frontier police consisted only of minor units directly attached to the Soviet Army. Later, however, they were placed under the East German Ministry of the Interior (*Deutsche Verwaltung des Inneren*). In the fall of 1946, an extensive recruiting campaign was set in motion, which resulted in a tenfold increase of the frontier police. This increase resulted, quite naturally, in some elements being taken into the frontier police forces which, from the Soviet point of view, were unreliable. In order to increase the political reliability of the personnel in these units, the "unreliable" elements were sent to special training camps, called *Volkspolizei-Bereitschaften*, which were under the jurisdiction of the East German Ministry of the Interior. This was officially announced on 1 September 1948, and constituted the first steps toward the creation of a new military force.

Rapid Expansion

Developments proceeded rapidly. The number of *Volkspolizei-Bereitschaften* was increased, and schools for the special training of officers and subordinate officers were organized. From the standpoint of organization, the frontier police, together with the *Volkspolizei-Bereitschaften* and schools, were co-ordinated under the East German Ministry of the Interior.

In the fall of 1949, a reorganization was effected. The *Volkspolizei-Bereitschaften* and schools were separated from the frontier police and formed into an independent unit under the *Hauptverwaltung für Ausbildung* (Chief Administrative Department for Training), whose chief was Wilhelm Zaisser (a Communist who served in the Spanish Civil War under the name of General Gomez). The frontier police and other gradually appearing police units—transportation, criminal, and others—were subordinated, at the same time, to the ministries of the interior of the five component states (Mecklenburg, Brandenburg, Sachsen, Sachsen-Anhalt, and Thüringen), with the reservation of control rights for the East German Ministry of the Interior.

Control Changed

When Zaisser was later appointed Min-

ister of National Security (however, still retaining his position with the *Hauptverwaltung für Ausbildung*) the military portions of the People's Police were placed under the Ministry of National Security. The remaining portions of the People's Police were placed under a newly created agency, the *Hauptverwaltung der Volkspolizei* (Chief Administrative Department of the People's Police), which, under the East German Ministry of the Interior, via the ministries of the interior of the five component states, controlled the purely political activities.

Air and Naval Units Added

The military People's Police organization, which previously comprised only ground force units, was later expanded to include naval and air force units. Thus, the *Hauptverwaltung Seepolizei* (Chief Administrative Department of Naval Police) was created, and the *Hauptverwaltung für Luftpolizei* (Chief Administrative Department for the Air Police) is presently being established. Both of these staffs are to be placed alongside the *Hauptverwaltung für Ausbildung*. Moreover, plans are being worked out for creating a joint supreme agency for the *Hauptverwaltung für Ausbildung*, *Hauptverwaltung Seepolizei*, and *Hauptverwaltung für Luftpolizei*, directly subordinated to the Ministry of National Security. In so doing, counterparts to the former German *Oberkommando der Wehrmacht* (High Command of the Armed Forces), *Oberkommando des Heeres* (High Command of the Army), *Oberkommando der Kriegsmarine* (High Command of the Navy), and *Oberkommando der Luftwaffe* (High Command of the Air Forces) will have been created.

Supreme Command

The supreme command of the People's Police is exercised by the *Hauptverwaltung für Ausbildung*, *Hauptverwaltung Seepolizei*, and *Hauptverwaltung für Luftpolizei*, which are directly subordinated to the Ministry of National Security. In this supreme command, there is found that organization which is so typical of the Soviets, the political command, in addition to the control and command which is exercised by the Soviet control commission.

Politkultur Leiter

The political command within the People's Police is directed by the Police Bureau of the Socialist Unity Party (SED), whose chief is the Deputy Minister President, Walten Ulbricht. At all levels, down to the smallest unit in the People's Police, *Politkultur Leiter* (Political Education Leaders) are operating. Such personnel form an independent unit of the Party, directly subordinated to the Police Bureau of the SED. Therefore, Ulbricht is, in accordance with the Soviet pattern, the true leader of the People's Police.

Sovietniki

The Soviets exercise control of the People's Police by means of Soviet officers in German uniforms (*Sovietniki*). Under the chief of the Soviet control commission, General Tiuikov, is a group of high-ranking Soviet officers, among others, Generals Petrakovski, Gorosyov, and Kubanov. General Kubanov reportedly, during 1949, collaborated in building up the North Korean Army. Once a month, the *Sovietniki* are ordered to meet with this group of officers, where they make their reports and receive instructions concerning military training, political schooling, and supervision.

Recruiting

Recruiting for the People's Police is effected from the ranks of prisoners of war who previously have been schooled for this purpose, and by the enlistment of volunteers by means of more or less masked, forceful summons. Young Germans who report to public labor agencies are frequently given the choice of the

uranium mines or the People's Police. Recruiting is facilitated, it can be said, by the relatively good living conditions in the People's Police.

An important preliminary step is made in the semi-military training in the Communist-controlled *Freie Deutsche Jugend* (Free German Youths). As in former times in the *Hitlerjugend* (Hitlerian Youths), the young are encouraged to engage in military activities, by awarding them marks of distinction for completing tests of a military nature. Older youths have the opportunity to participate in a voluntary 6-months' course arranged by the *Volkspolizei-Dienststellen* (People's Police Command Headquarters). It is likely that the high school students in the Eastern Zone are required to break off their studies for a period in order to engage in military training. The significance of the *Freie Deutsche Jugend* appears evident in the light of the fact that Heinz Kessler, the organization's second presiding officer, was appointed, in November 1950, as its liaison and training officer, with the rank of colonel in the *Volkspolizei Bereitschaften*. His mission, in addition to the handling of general recruiting matters, appears to be the creation of elite military formations of specially selected youths. Already, there are several of these formations made up entirely of *Freie Deutsche Jugend* members.

The period of service in the People's Police is 3 years. An obligatory period of military service of 2 years has been contemplated for a long time, but, for various reasons, it has been put off. The lack of instructors, the difficulties of political schooling, and, possibly, purely political grounds have likely been the major reasons for this postponement. It appears, however, that preparations now have reached the point where we may expect a proclamation of universal military service.

Political Schooling

Great weight is attached to political training, which occupies about a third of the training time. The principal objective in this training is to educate the students to a truly friendly attitude toward the Soviet Union and the other satellite countries. This objective will be attained, it is hoped, by means of increased knowledge concerning the Soviet Union, imparted by means of literature, films, lectures, and discussions. To the members of the People's Police, the Soviet Union is to appear as the leading power in the peace front and as the true friend of the German people.

Every man is to be trained to be a thoroughly indoctrinated, disciplined fighter for Germany's unity and peace, and to implacable hatred toward the "warmongers."

The prerequisite for achieving, maintaining, and increasing the political reliability of the troops educated in this manner is to shield them from all influence coming from the Western nations. Therefore, the members of the *Volkspolizei-Dienststellen* recently, among other things, were deprived of the right to own any private radio equipment.

Ground Force Units

The command of the ground combat forces of the People's Police is exercised by the Minister of National Security, Wilhelm Zaisser, who also is the chief of the *Hauptverwaltung für Ausbildung*. He exercises only political command, however, while the deputy chief, Kurt Hoffmann, is in command of the military activity.

At the turn of the year 1950-51, a thorough reorganization took place. However, since the old organization constitutes the basis of the present one, it is necessary, briefly, to discuss its structure.

Organization

Under the *Hauptverwaltung für Ausbildung*, there were from 30 to 40 *Volkspolizei Bereitschaften* and 10 to 15 schools

organized, with a strength of from 12 to 14 thousand men. These *Volkspolizei Bereitschaften* corresponded closely to our peacetime training battalions. The schools were exclusively command schools, and, in the matter of equipment, were better provided for than the *Volkspolizei Bereitschaften*. The total strength of the *Hauptverwaltung für Ausbildung* was from 75 to 80 thousand men, and plans were being made to increase it to 120 to 130 thousand men, and to organize five higher staffs (*Gruppenkommando*) under its control.

Training

The military training was patterned after the infantry training of the former German Army, whose regulations were followed, besides certain Soviet Army regulations. A few special formations received artillery, tank, signal communications, and engineer training.

Equipment

All equipment, including the heavy matériel such as tanks and artillery, was either German or Soviet. However, it does not appear as though the People's Police were provided with matériel over and above that necessary for training purposes. Thus, no reserves of matériel for possible mobilization have been noted.

In January 1951, all of the *Volkspolizei Bereitschaften* and schools of the People's Police were dissolved, and the personnel regrouped in accordance with a new plan. At the same time, a thorough political purging took place, which not only affected the *Volkspolizei Bereitschaften* and the schools, but also the other units of the People's Police—the frontier police, administrative police, criminal police, and others. The disbandment of personnel was affected on the grounds of family connections with the Western nations or Yugoslavia, on the grounds of residence there, or on the grounds of political unreliability. The papers of the individuals concerned were marked with the notation that the individuals had been dismissed "in consequence of organizational changes," for "missions connected with the Five-Year Plan," or for the reason that they were "unsuitable for service in the People's Police."

Type Units

Earlier, both the *Volkspolizei Bereitschaften* and the schools had comprised only one type of troops. Under the reorganization, the troop units are patterned after the Soviet regiment and contain three infantry commandos, one artillery commando, and a special unit comprising mortar, antitank, tank, antiaircraft artillery, engineer, signal communications, and maintenance units.

It is not known whether the *Volkspolizei Bereitschaften* organization has been entirely discarded or has only passed into the chrysalis stage. If the planned introduction of universal military service is carried out, it is conceivable that the recruits will receive their first training in the *Volkspolizei Bereitschaften* and then be assigned to the present-type troop units.

A New German Army?

The prerequisites for the creation of an East German army would appear to be already in existence. A number of reports indicate that measures already have been taken toward this end. The *Volkspolizei Bereitschaften* normally did not conduct maneuvers above the regimental level. However, it is anticipated that the new units will conduct their maneuvers on a larger scale, and with all types of units participating. Furthermore, larger maneuvers, in conjunction with Soviet troops, are not impossible. Up to the present time, only minor People's Police formations have been observed in the combined East German-Soviet maneuvers, and these were only blockading maneuvers, not firing maneuvers. However, reports have been circulated that East German formations have

taken part in military maneuvers outside the borders of Eastern Germany. For example, four motorized *Volkspolizei Bereitschaften* from Thüringen were reported to have been taken east of the Oder-Neisse boundary into Czechoslovakia and Poland, toward the end of 1950, to participate in joint maneuvers with Czechoslovak and Polish forces.

Value of the People's Police

The strategic value of the East German People's Police to the Soviet Union must, under the present conditions, be regarded as limited. This view is supported by the speed with which the organization has been developed, which, no doubt, resulted in the inclusion of many politically "unreliable" elements in its ranks. Furthermore, the majority of the instructors have been former *Wehrmacht* officers, and only a part of them have been won over to communism, even though many are of the view that the only way to a united Germany is through Soviet-German friendship. Finally, the meager equipping of the units indicates that the Soviets themselves regard the political reliability of the People's Police as being low at the present time. However, in the long run, the People's Police can be a factor to reckon with. When recruiting can be effected gradually and, in the main, from the ranks of the *Freie Deutsche Jugend* and from young Germans who have received "proper" political indoctrination, and the unreliable elements can be gradually purged, we must begin to count on a military force loyal to the Soviet Union.

June 1952

Those who feel that the successful solution to one conflict may give us the opportunity to relax and stay out of all the succeeding ones fail to recognize the avowed intent of Communist doctrine. We are face to face with a long-range struggle—a struggle in which the enemy will use all means—political, economic, psychological, and military—to bring about this capitulation. This long-range struggle is a struggle for survival.

General of the Army Omar N. Bradley

Human misery and want merely have served to whet militant communism's lust for power. Supported by the mighty Soviet Army and a ruthless corps of international Communists, it has attempted everywhere to push back the frontiers of freedom and to strangle the efforts of war-torn nations to regain political and economic stability.

General J. Lawton Collins

BOOKS OF INTEREST TO THE MILITARY READER

MEN OF WEST POINT. By Colonel R. Ernest Dupuy, US Army-Ret. 486 Pages. William Sloane Associates, New York. $5.00.

By Lt Col Donald L. Durfee, *Inf*

Primarily written to show the influence of the United States Military Academy on the development of the United States, *Men of West Point* is devoted to brief biographical sketches of some of the Academy's more famous graduates. No book, however, which deals with our military history can fail to include something of our great citizen soldiers.

Colonel Dupuy pays great tribute to Sylvanus Thayer, who founded the system of education at West Point, and to Dennis Hart Mahan, one of the products of that system. According to Colonel Dupuy, just as Thayer is the "Father of the Military Academy," Mahan is the "father of modern warfare," with his doctrine of "celerity, that secret of success." The author continually brings out how Mahan's teachings have influenced great military leaders of our own and foreign countries: Lee, Grant, Sheridan, Early, Jackson, Sherman, and other Civil War leaders, down to MacArthur, Eisenhower, Patton, Bradley *et al* of World War II, not forgetting the planners of Germany's *blitzkrieg*.

One can scarcely fail to notice the almost continuous fighting that our Nation has had to face since its beginning. Although the last half of this book deals with World War II and the exploits of West Point graduates in that war, the early chapters point out how, for nearly a century, graduates were engaged in the "winning of the West" and almost constant warfare.

Besides the contributions of many graduates of the Academy in our Nation's most critical war periods, Colonel Dupuy also points out their lesser known influence on the development of education and the founding of many of our great universities and colleges.

There are doubtless a great many officers, both graduates and non-graduates, who would like to take issue with the author on some of the exploits of those mentioned in the book. There are many who were "there" at the time and who saw a different picture, but none can deny that Colonel Dupuy has done a fine job in covering the over-all story of West Point's graduates up to an including the "Police Action" in Korea. All who read it will learn something, not only of West Point and its graduates, but also of the art of war as we know it today.

A PICTORIAL HISTORY OF THE CONFEDERACY. By Lamont Buchanan. 278 Pages. Crown Publishers, Inc., New York. $5.00.

By Capt James S. Edgar, *MPC*

This remarkable history brings to life the truly great men and events of the Confederacy from beginning to end. Here, published for the first time, are many photos and old records of events that had remained hidden.

The book contains rare Brady photos, Sheppard sketches, Chapman oils, Valck engravings, and many on-the-spot drawings by unknown Confederate soldiers.

HOW STRONG IS RUSSIA? By T. Zavalani. 244 Pages. Frederick A. Praeger, New York. $4.00.

By CAPT SELWYN P. ROGERS, *Armor*

With well-presented data, the author of *How Strong Is Russia?* gives a detailed discussion of the various five-year plans instituted by Stalin. In an impressive manner, he proves that Soviet practice and reality is quite different from Soviet theory and propaganda.

Beginning with the first Five-Year Plan (First Pyatiletka), the author carries the reader through March 1951. He shows how, in each successive Five-Year Plan, bureaucracy, lack of co-ordination, faulty execution, and poor treatment of a majority of workers kept the Soviet regime from realizing its ambitions. Instead of a Communist society where everyone works according to his capacity and reaps according to his needs, there has emerged through the years an economic system with all the "hated defects of bourgeois and capitalistic" systems. The book tells how Stalin has succeeded in creating a new labor aristocracy and what uses he has made of some very bourgeois devices: taxes, mostly indirect; loans, mostly compulsory; and issues of paper money.

Mr. Zavalani very pointedly indicates that the failure of the Soviet regime to become the ideal welfare state has had its counterpart in turning the USSR into a police state. Within 20 years, what was going to be the model government of the people, by the people, and for the people has taken the ugly shape of state capitalism coupled with a ruthless political dictatorship.

This book well supports the author's conclusion that the high humanitarian ideals which were propounded by the leaders of the Communist revolution in its early phase have been thrown overboard. The Russian worker has become a salaried slave of the Communist state, and it does not appear that the present system in Soviet and Eastern Europe can evolve into a more humane and bearable form. The slogan of more steel, more petrol, more coal, and more machines, carried out since the end of World War II, has resulted in a deterioration of the living conditions of the toiling masses as compared with prewar times.

This book is an impressive denunciation of communism in economic action and of a government which has become a mortal danger to political freedom, social and economic progress, and all the moral values of self-respecting humanity. If the reader is not adverse to detailed explanations and charts and figures, a reading of Mr. Zavalani's work will be most enlightening.

THE UNITED STATES AND SPAIN. By Carlton J. H. Hayes. 198 Pages. Sheed & Ward, Inc., New York. $2.75.

By MAJ RUPERT AMY, *Inf*

The United States and Spain summarizes in a very comprehensive way the fluctuation in international relations between these two countries, and draws special attention to the vacillating foreign policy of the United States toward Spain. It goes further than being a mere narrative of facts—it digs out the historical social background of Spain and the English-speaking countries and its effect on their contemporary international relations; it gives the *what, when,* and *why* of the different (often opposing) attitudes of our Government; and it suggests the road we should follow in our national policy toward Spain.

This book has been written through the perspective of a man who knows Spain and its people; and, consequently, readily understands the idiosyncrasies of the population.

The United States and Spain should be read by both the military and civilians who are interested in our present foreign policy.

EISENHOWER, The Man and the Symbol. By John Gunther. 180 Pages. Harper & Brothers, New York. $2.50.

By LT COL MELVIN ZAIS, *Inf*

John Gunther's book will undoubtedly be received with great interest by the military reader. It is readable, interesting, and informative. Gunther, great reporter that he is, relied to a major extent on research of other writers and on interviews of those closely associated with General Eisenhower in order to establish the framework of the book. He fills out the skeleton with data and observations gleaned through what appears to have been a short, recent interview and memories of his occasional associations with General Eisenhower during the war. Despite the fact that he did not enjoy the same close relationship as did Kevin McCann or Captain Butcher, he manages with his flair for use of anecdotes and illustrative situations to make his portrait intimate, lively, and impressive.

To the military reader, the wartime career of General Eisenhower needs no introduction. However, the author's brief sketching of the General's early life, the day-to-day functioning of SHAPE, his relationship with his staff, and his personal mode of living shed much light on Eisenhower as a man and separate him in the reader's eye from the inescapable aura of the five stars which he wears.

When he wrote the book he did not know that General Eisenhower would announce his willingness to accept the Presidential nomination, if offered. However, he does deal at great length with the General's political views and his analysis of the General's assets and shortcomings in a political role. As usual, Gunther "calls them as he sees them," and although the General does not come out unscathed he fares extremely well under the bright, analytical eye of "Mr. Inside."

CONGRESS: Its Contemporary Role. By Ernest S. Griffith. 191 Pages. New York University Press, New York. $3.50.

By CAPT WILLIAM H. BEAUCHAMP, *CE*

The maturing role of Congress in the national political scene is the theme of Mr. Griffith's book. He is concerned primarily with presenting the recent historic evolution of Congress as the Legislative Branch of our Government, and he is certainly well equipped to do this job for he has been director of the Legislative Reference Service of the Library of Congress since 1940 as well as being a nationally recognized writer in the political science field.

Major facets of the Congressional picture considered in this study are Executive-Legislative relations, the position of Congress in formulating foreign policy, and the influence of Congress on national economic planning, pressure groups, and political parties. A clear, interesting picture of Congress adjusting itself admirably to the modern age is ably presented.

MY RINGSIDE SEAT IN MOSCOW. By Nicholas Nyaradi. 307 Pages. Thomas Y. Crowell Co., New York. $3.75.

By LT COL IRVING HEYMONT, *Inf*

Mr. Nyaradi, who was the last non-Communist Finance Minister of Hungary, has written an engaging and witty account of his 7 months of negotiations in Moscow in 1947. During this period, he succeeded in inducing the Russians to scale down drastically their reparation demands on Hungary.

In recounting these negotiations, the author gives the reader an insight into Soviet diplomatic processes and relations with satellite nations. Mr. Nyaradi's observations, and he is a keen observer, cover all facets of Soviet life. The book is marred, however, by a tendency toward unnecessary sensationalism and statement of obvious hearsay as fact.